

**WEST**[Help](#) [Logout](#) [Interrupt](#)[Main Menu](#) [Search Form](#) [Posting Counts](#) [Show S Numbers](#) [Edit S Numbers](#) [Preferences](#) [Cases](#)**Search Results -**

Term	Documents
EXENDIN.DWPI,TDBD,EPAB,USPT,PGPB.	61
EXENDINS.DWPI,TDBD,EPAB,USPT,PGPB.	14
MODIFICATION.DWPI,TDBD,EPAB,USPT,PGPB.	446444
MODIFICATIONS.DWPI,TDBD,EPAB,USPT,PGPB.	1206436
CONJUGATE.DWPI,TDBD,EPAB,USPT,PGPB.	56135
CONJUGATES.DWPI,TDBD,EPAB,USPT,PGPB.	18516
(EXENDIN AND CONJUGATE AND MODIFICATION).USPT,PGPB,EPAB,DWPI,TDBD.	5
(EXENDIN AND MODIFICATION AND CONJUGATE).USPT,PGPB,EPAB,DWPI,TDBD.	5

Database:

- US Patents Full-Text Database
- US Pre-Grant Publication Full-Text Database
- JPO Abstracts Database
- EPO Abstracts Database
- Derwent World Patents Index
- IBM Technical Disclosure Bulletins

Search:

Refine Search

Recall Text  Clear

**Search History****DATE: Friday, July 05, 2002** [Printable Copy](#) [Create Case](#)

Set Name   Query  
side by sideHit Count   Set Name  
result set*DB=USPT,PGPB,EPAB,DWPI,TDBD; PLUR=YES; OP=ADJ*

<u>L5</u>	exendin and modification and conjugate	5	<u>L5</u>
<u>L4</u>	L3 and conjugate	20	<u>L4</u>
<u>L3</u>	L1 and (Glucagon adj like adj peptide)	83	<u>L3</u>
<u>L2</u>	L1 and (Glucagonadj like adj peptide)	0	<u>L2</u>
<u>L1</u>	Polyethylene and GLP	216	<u>L1</u>

END OF SEARCH HISTORY

## WEST Search History

DATE: Friday, July 05, 2002

<u>Set Name</u>	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u>
side by side			
	<i>DB=USPT,PGPB,EPAB,DWPI,TDBD; PLUR=YES; OP=ADJ</i>		
L5	exendin and modification and conjugate	5	L5
L4	L3 and conjugate	20	L4
L3	L1 and (Glucagon adj like adj peptide)	83	L3
L2	L1 and (Glucagonadj like adj peptide)	0	L2
L1	polyethylene and GLP	216	L1

END OF SEARCH HISTORY

WEST

[Generate Collection](#)[Print](#)**Search Results - Record(s) 1 through 5 of 5 returned.**

1. Document ID: US 20020049153 A1

L5: Entry 1 of 5

File: PGPB

Apr 25, 2002

PGPUB-DOCUMENT-NUMBER: 20020049153

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020049153 A1

TITLE: Long lasting insulinotropic peptides

PUBLICATION-DATE: April 25, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Bridon, Dominique P.	Outremont	CA	CA	
L'Archeveque, Benoit	Leval		CA	
Ezrin, Alan M.	Moraga		US	
Holmes, Darren L.	Montreal		CA	
Leblanc, Anouk	Montreal		CA	
St. Pierre, Serge	Ile Bizard		CA	

US-CL-CURRENT: 514/3; 514/12, 530/303[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequences](#) [Attachments](#) [Claims](#) [KMC](#) [Draw Desc](#) [Image](#)

2. Document ID: US 20020037359 A1

L5: Entry 2 of 5

File: PGPB

Mar 28, 2002

PGPUB-DOCUMENT-NUMBER: 20020037359

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020037359 A1

TITLE: Focused acoustic energy in the preparation of peptide arrays

PUBLICATION-DATE: March 28, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Mutz, Mitchell W.	Palo Alto	CA	US	
Ellson, Richard N.	Palo Alto	CA	US	

US-CL-CURRENT: 427/2.11; 435/176, 530/351, 530/388.1, 530/399[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequences](#) [Attachments](#) [Claims](#) [KMC](#) [Draw Desc](#) [Image](#)

3. Document ID: US 20010011071 A1

L5: Entry 3 of 5

File: PGPB

Aug 2, 2001

PGPUB-DOCUMENT-NUMBER: 20010011071  
 PGPUB-FILING-TYPE: new  
 DOCUMENT-IDENTIFIER: US 20010011071 A1

TITLE: DERIVATIVES OF GLP-1 ANALOGS

PUBLICATION-DATE: August 2, 2001

## INVENTOR- INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
KNUDSEN, LISELOTTE BJORRE	VALBY		DK	
HUUSFELDT, PER OLAF	KOBENHAVN K		DK	
NIELSEN, PER FRANKLIN	VARLOSE		DK	
KAARSHOLM, NIELS C.	VANLOSE		DK	
OLSEN, HELLE BIRK	ALLEROD		DK	
BJORN, SOREN ERIK	LYNGBY		DK	
PEDERSEN, FREDDY ZIMMERDAHL	VARLOSE		DK	
MADSEN, KJELD	VARLOSE		DK	

US-CL-CURRENT: 514/12; 530/308

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Desc	Image
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 4. Document ID: US 6329336 B1

L5: Entry 4 of 5

File: USPT

Dec 11, 2001

US-PAT-NO: 6329336

DOCUMENT-IDENTIFIER: US 6329336 B1

TITLE: Long lasting insulinotropic peptides

DATE-ISSUED: December 11, 2001

## INVENTOR- INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bridon; Dominique P.	Outremont			CAX
L'Archeveque; Benoit	Laval			CAX
Ezrin; Alan M.	Moraga	CA		
Holmes; Darren L.	Montreal			CAX
Leblanc; Anouk	Montreal			CAX
St. Pierre; Serge	Ile Bizard			CAX

US-CL-CURRENT: 514/2; 514/12

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KWIC	Draw Desc	Image
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 5. Document ID: US 6051557 A

L5: Entry 5 of 5

File: USPT

Apr 18, 2000

US-PAT-NO: 6051557

DOCUMENT-IDENTIFIER: US 6051557 A

TITLE: Methods of enhancing functioning of the upper gastrointestinal tract

DATE-ISSUED: April 18, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Drucker; Daniel J.	Ontario			CAX

US-CL-CURRENT: 514/12; 435/366, 530/308, 530/324

[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequences](#) [Attachments](#) [KMLC](#) [Draw. Desc](#) [Image](#)

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Term	Documents
EXENDIN.DWPI,TDBD,EPAB,USPT,PGPB.	61
EXENDINS.DWPI,TDBD,EPAB,USPT,PGPB.	14
MODIFICATION.DWPI,TDBD,EPAB,USPT,PGPB.	446444
MODIFICATIONS.DWPI,TDBD,EPAB,USPT,PGPB.	1206436
CONJUGATE.DWPI,TDBD,EPAB,USPT,PGPB.	56135
CONJUGATES.DWPI,TDBD,EPAB,USPT,PGPB.	18516
(EXENDIN AND CONJUGATE AND MODIFICATION).USPT,PGPB,EPAB,DWPI,TDBD.	5
(EXENDIN AND MODIFICATION AND CONJUGATE).USPT,PGPB,EPAB,DWPI,TDBD.	5

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## Search Results - Record(s) 1 through 42 of 42 returned.

 1. Document ID: US 20020065239 A1

L2: Entry 1 of 42

File: PGPB

May 30, 2002

PGPUB-DOCUMENT-NUMBER: 20020065239

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020065239 A1

TITLE: Methods and compositions for treatment of diabetes and related conditions via gene therapy

PUBLICATION-DATE: May 30, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Caplan, Shari L.	Sloatsburg	NY	US	
Boettcher, Brian R.	Morristown	NJ	US	
Slosberg, Eric D.	New York	NY	US	
Connelly, Sheila	Ijamsville	MD	US	
Kaleko, Michael	Rockville	MD	US	
Desai, Urvi J.	Germantown	MD	US	

US-CL-CURRENT: 514/44[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequences](#) [Attachments](#) [Claims](#) [KMC](#) [Draw Desc](#) [Image](#) 2. Document ID: US 20020061838 A1

L2: Entry 2 of 42

File: PGPB

May 23, 2002

PGPUB-DOCUMENT-NUMBER: 20020061838

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020061838 A1

TITLE: Peptide pharmaceutical formulations

PUBLICATION-DATE: May 23, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Holmquist, Barton	Lincoln	NE	US	
Dormady, Daniel C.	Omaha	NE	US	

US-CL-CURRENT: 514/2[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequences](#) [Attachments](#) [Claims](#) [KMC](#) [Draw Desc](#) [Image](#)

3. Document ID: US 20020058659 A1

L2: Entry 3 of 42

File: PGPB

May 16, 2002

PGPUB-DOCUMENT-NUMBER: 20020058659  
 PGPUB-FILING-TYPE: new  
 DOCUMENT-IDENTIFIER: US 20020058659 A1

TITLE: Imidazole compounds

PUBLICATION-DATE: May 16, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Andersen, Knud Erik	Brondby		DK	
Dorwald, Florencio Zaragiza	Ballerup		DK	
Peschke, Bernd	Malov		DK	
Sidelmann, Ulla Grove	Valby		DK	
Rudolf, Klaus	Warthausen		DE	
Stenkamp, Dirk	Biberach		DE	
Hurnaus, Rudolf	Biberach		DE	
Muller, Stephan Georg	Warthausen		DE	
Krist, Bernd	Ulm		DE	
Eriksen, Birgitte	Farum		DE	

US-CL-CURRENT: 514/234.5; 514/314, 514/322, 514/338, 514/366, 514/394, 546/167,  
546/273.4, 548/159, 548/304.4

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#)

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 4. Document ID: US 20020055460 A1

L2: Entry 4 of 42

File: PGPB

May 9, 2002

PGPUB-DOCUMENT-NUMBER: 20020055460  
 PGPUB-FILING-TYPE: new  
 DOCUMENT-IDENTIFIER: US 20020055460 A1

TITLE: Metabolic intervention with GLP-1 to improve the function of ischemic and reperfused tissue

PUBLICATION-DATE: May 9, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Coolidge, Thomas R.	Falls Village	CT	US	
Ehlers, Mario R.W.	Lincoln	NE	US	

US-CL-CURRENT: 514/2; 514/23, 514/53

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#)

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 5. Document ID: US 20020049153 A1

L2: Entry 5 of 42

File: PGPB

Apr 25, 2002

PGPUB-DOCUMENT-NUMBER: 20020049153  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20020049153 A1

TITLE: Long lasting insulinotropic peptides

PUBLICATION-DATE: April 25, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Bridon, Dominique P.	Outremont	CA	CA	
L'Archeveque, Benoit	Leval		CA	
Ezrin, Alan M.	Moraga		US	
Holmes, Darren L.	Montreal		CA	
Leblanc, Anouk	Montreal		CA	
St. Pierre, Serge	Ile Bizard		CA	

US-CL-CURRENT: 514/3; 514/12, 530/303

[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequences](#) [Attachments](#) [KMC](#) [Draw. Desc](#) [Image](#)

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6. Document ID: US 20020037527 A1

L2: Entry 6 of 42

File: PGPB

Mar 28, 2002

PGPUB-DOCUMENT-NUMBER: 20020037527  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20020037527 A1

TITLE: High density molecular arrays on porous surfaces

PUBLICATION-DATE: March 28, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Ellson, Richard N.	Palo Alto	CA	US	
Mutz, Mitchell W.	Palo Alto	CA	US	
Foote, James K.	Cupertino	CA	US	

US-CL-CURRENT: 435/6; 436/518

[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequences](#) [Attachments](#) [KMC](#) [Draw. Desc](#) [Image](#)

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7. Document ID: US 20020037359 A1

L2: Entry 7 of 42

File: PGPB

Mar 28, 2002

PGPUB-DOCUMENT-NUMBER: 20020037359  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20020037359 A1

TITLE: Focused acoustic energy in the preparation of peptide arrays

PUBLICATION-DATE: March 28, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Mutz, Mitchell W.	Palo Alto	CA	US	
Ellson, Richard N.	Palo Alto	CA	US	

US-CL-CURRENT: 427/2.11; 435/176, 530/351, 530/388.1, 530/399

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [KMC](#) | [Drawn Desc](#) | [Image](#)

8. Document ID: US 20020019411 A1

L2: Entry 8 of 42

File: PGPB

Feb 14, 2002

PGPUB-DOCUMENT-NUMBER: 20020019411

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020019411 A1

TITLE: Cyclopropyl-fused pyrrolidine-based inhibitors of dipeptidyl peptidase IV and method

PUBLICATION-DATE: February 14, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Robl, Jeffrey A.	Newtown	PA	US	
Sulsky, Richard B.	West Trenton	NJ	US	
Augeri, David J.	Princeton	NJ	US	
Magnin, David R.	Hamilton	NJ	US	
Hamann, Lawrence G.	Cherry Hill	NJ	US	
Betebenner, David A.	Lawrenceville	NJ	US	

US-CL-CURRENT: 514/299; 546/112

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [KMC](#) | [Drawn Desc](#) | [Image](#)

9. Document ID: US 20020010129 A1

L2: Entry 9 of 42

File: PGPB

Jan 24, 2002

PGPUB-DOCUMENT-NUMBER: 20020010129

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020010129 A1

TITLE: Shock heat treatment of polypeptides

PUBLICATION-DATE: January 24, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Matthiesen, Finn	Bronshoj	DK		

US-CL-CURRENT: 514/2; 530/350

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [KMC](#) | [Drawn Desc](#) | [Image](#)

10. Document ID: US 20010051646 A1

L2: Entry 10 of 42

File: PGPB

Dec 13, 2001

PGPUB-DOCUMENT-NUMBER: 20010051646

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20010051646 A1

TITLE: Method for the improvement of islet signaling in diabetes mellitus and for its prevention

PUBLICATION-DATE: December 13, 2001

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Demuth, Hans-Ulrich	Halle		DE	
Glund, Konrad	Halle		DE	

US-CL-CURRENT: 514/369; 514/423

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">KMC</a>	<a href="#">Draw Desc</a>	<a href="#">Image</a>
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 11. Document ID: US 20010049385 A1

L2: Entry 11 of 42

File: PGPB

Dec 6, 2001

PGPUB-DOCUMENT-NUMBER: 20010049385

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20010049385 A1

TITLE: Imidazo heterocyclic compounds

PUBLICATION-DATE: December 6, 2001

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Andersen, Knud Erik	Brondby		DK	
Dorwald, Florencio Zaragoza	Ballerup		DK	
Peschke, Bernd	Malov		DK	

US-CL-CURRENT: 514/394; 548/303.1, 548/304.4, 548/304.7

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">KMC</a>	<a href="#">Draw Desc</a>	<a href="#">Image</a>
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 12. Document ID: US 20010047084 A1

L2: Entry 12 of 42

File: PGPB

Nov 29, 2001

PGPUB-DOCUMENT-NUMBER: 20010047084

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20010047084 A1

TITLE: Extandin derivatives

PUBLICATION-DATE: November 29, 2001

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Knudsen, Liselotte Bjerre	Valby		DK	
Huusfeldt, Per Olaf	Copenhagen K		DK	
Nielsen, Per Franklin	Vaerlose		DK	
Madsen, Kjeld	Vaerlose		DK	

US-CL-CURRENT: 530/399
[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) |

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 13. Document ID: US 20010046489 A1

L2: Entry 13 of 42

File: PGPB

Nov 29, 2001

PGPUB-DOCUMENT-NUMBER: 20010046489

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20010046489 A1

TITLE: Stem cells of the islets of langerhans and their use in treating diabetes mellitus

PUBLICATION-DATE: November 29, 2001

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Habener, Joel E.	Newton Center	MA	US	
Zulewski, Henryk	Geneva	MA	CH	
Abraham, Elizabeth J.	Quincy	MA	US	
Thomas, Melissa K.	Boston		US	
Vallejo, Mario	Madrid		ES	

US-CL-CURRENT: 424/93.21; 424/152.1, 435/366, 514/9
[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) |

[KIMC](#) | [Draw Desc](#) | [Image](#) |

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 14. Document ID: US 20010038862 A1

L2: Entry 14 of 42

File: PGPB

Nov 8, 2001

PGPUB-DOCUMENT-NUMBER: 20010038862

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20010038862 A1

TITLE: Topical and transdermal administration of peptidyl durgs using hydroxide releasing agents as permeation enhancers

PUBLICATION-DATE: November 8, 2001

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Luo, Eric C.	Plano	TX	US	
Hsu, Tsung-Min	San Diego	CA	US	

US-CL-CURRENT: 424/688; 514/2

[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequences](#) [Attachments](#)[KINIC](#) [Drawn Desc](#) [Image](#) 15. Document ID: US 20010024824 A1

L2: Entry 15 of 42

File: PGPB

Sep 27, 2001

PGPUB-DOCUMENT-NUMBER: 20010024824

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20010024824 A1

TITLE: Stem cells and their use in transplantation

PUBLICATION-DATE: September 27, 2001

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Moss, Peter Ian	London		GB	
Walters, David Martin	London		GB	
Pointer, Graham	London		GB	

US-CL-CURRENT: 435/366; 424/93.7[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequences](#) [Attachments](#)[KINIC](#) [Drawn Desc](#) [Image](#) 16. Document ID: US 20010012829 A1

L2: Entry 16 of 42

File: PGPB

Aug 9, 2001

PGPUB-DOCUMENT-NUMBER: 20010012829

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20010012829 A1

TITLE: Transepithelial delivery GLP-1 derivatives

PUBLICATION-DATE: August 9, 2001

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Anderson, Keith	San Diego	CA	US	
Agerso, Henrik	Fredensborg		DK	

US-CL-CURRENT: 514/12; 424/43[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequences](#) [Attachments](#)[KINIC](#) [Drawn Desc](#) [Image](#) 17. Document ID: US 20010011071 A1

L2: Entry 17 of 42

File: PGPB

Aug 2, 2001

PGPUB-DOCUMENT-NUMBER: 20010011071

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20010011071 A1

TITLE: DERIVATIVES OF GLP-1 ANALOGS

PUBLICATION-DATE: August 2, 2001

## INVENTOR- INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
KNUDSEN, LISELOTTE BJORRE	VALBY		DK	
HUUSFELDT, PER OLAF	KOBENHAVN K		DK	
NIELSEN, PER FRANKLIN	VARLOSE		DK	
KAARSHOLM, NIELS C.	VANLOSE		DK	
OLSEN, HELLE BIRK	ALLEROD		DK	
BJORN, SOREN ERIK	LYNGBY		DK	
PEDERSEN, FREDDY ZIMMERDAHL	VARLOSE		DK	
MADSEN, KJELD	VARLOSE		DK	

US-CL-CURRENT: 514/12; 530/308
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[KIMC](#) [Drawn Desc](#) [Image](#)


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 18. Document ID: US 6399601 B1

L2: Entry 18 of 42

File: USPT

Jun 4, 2002

US-PAT-NO: 6399601

DOCUMENT-IDENTIFIER: US 6399601 B1

TITLE: Bicyclic pyrrolyl amides as glycogen phosphorylase inhibitors

DATE-ISSUED: June 4, 2002

## INVENTOR- INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Du Bois; Daisy Joe	Palo Alto	CA		

US-CL-CURRENT: 514/233.8; 206/566, 514/321, 514/365, 514/419, 544/143, 546/198,  
548/181, 548/453
[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequences](#) [Attachments](#)
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 19. Document ID: US 6395767 B2

L2: Entry 19 of 42

File: USPT

May 28, 2002

US-PAT-NO: 6395767

DOCUMENT-IDENTIFIER: US 6395767 B2

TITLE: Cyclopropyl-fused pyrrolidine-based inhibitors of dipeptidyl peptidase IV and method

DATE-ISSUED: May 28, 2002

## INVENTOR- INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Robl; Jeffrey A.	Newtown	PA		
Sulsky; Richard B.	West Trenton	NJ		
Augeri; David J.	Princeton	NJ		
Magnin; David R.	Hamilton	NJ		
Hamann; Lawrence G.	Cherry Hill	NJ		
Betebenner; David A.	Lawrenceville	NJ		

US-CL-CURRENT: 514/412; 548/452

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KINIC	Drawn Desc	Image
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20. Document ID: US 6376549 B1

L2: Entry 20 of 42

File: USPT

Apr 23, 2002

US-PAT-NO: 6376549

DOCUMENT-IDENTIFIER: US 6376549 B1

TITLE: Metformin-containing compositions for the treatment of diabetes

DATE-ISSUED: April 23, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fine; Stuart A.	Northbrook	IL		
Kinsella; Kevin J.	La Jolla	CA		

US-CL-CURRENT: 514/635; 424/617, 424/626, 424/639, 424/655

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KINIC	Drawn Desc	Image
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21. Document ID: US 6344180 B1

L2: Entry 21 of 42

File: USPT

Feb 5, 2002

US-PAT-NO: 6344180

DOCUMENT-IDENTIFIER: US 6344180 B1

TITLE: GLP-1 as a diagnostic test to determine .beta.-cell function and the presence of the condition of IGT and type II diabetes

DATE-ISSUED: February 5, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Holst; J. J.	Copenhagen			DKX
Vilsboll; Tina	Hellerup			DKX

US-CL-CURRENT: 424/9.1; 435/4, 435/7.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KINIC	Drawn Desc	Image
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22. Document ID: US 6329336 B1

L2: Entry 22 of 42

File: USPT

Dec 11, 2001

US-PAT-NO: 6329336

DOCUMENT-IDENTIFIER: US 6329336 B1

TITLE: Long lasting insulinotropic peptides

DATE-ISSUED: December 11, 2001

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bridon; Dominique P.	Outremont			CAX
L'Archeveque; Benoit	Laval			CAX
Ezrin; Alan M.	Moraga	CA		
Holmes; Darren L.	Montreal			CAX
Leblanc; Anouk	Montreal			CAX
St. Pierre; Serge	Ile Bizard			CAX

US-CL-CURRENT: 514/2; 514/12[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequences](#) [Attachments](#)[KMC](#) [Draw Desc](#) [Image](#) 23. Document ID: US 6284725 B1

L2: Entry 23 of 42

File: USPT

Sep 4, 2001

US-PAT-NO: 6284725

DOCUMENT-IDENTIFIER: US 6284725 B1

TITLE: Metabolic intervention with GLP-1 to improve the function of ischemic and reperfused tissue

DATE-ISSUED: September 4, 2001

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Coolidge; Thomas R.	Falls Village	CT		
Ehlers; Mario R. W.	Lincoln	NE		

US-CL-CURRENT: 514/2; 424/185.1, 514/12, 530/300, 530/324[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequences](#) [Attachments](#)[KMC](#) [Draw Desc](#) [Image](#) 24. Document ID: US 6268343 B1

L2: Entry 24 of 42

File: USPT

Jul 31, 2001

US-PAT-NO: 6268343

DOCUMENT-IDENTIFIER: US 6268343 B1

TITLE: Derivatives of GLP-1 analogs

DATE-ISSUED: July 31, 2001

## INVENTOR-INFORMATION:

NAME	CITY	STATE ZIP	CODE	COUNTRY
Knudsen; Liselotte Bjerre	Valby			DKX
Huusfeldt; Per Olaf	K.o slashed.benhavn K			DKX
Nielsen; Per Franklin	V.ae butted.rl.o slashed.se			DKX
Kaarsholm; Niels C.	Vanl.o slashed.se			DKX
Olsen; Helle Birk	Aller.o slashed.d			DKX
Bj.o slashed.rn; S.o slashed.ren Erik	Lyngby			DKX
Pedersen; Freddy Zimmerdahl	V.ae butted.rl.o slashed.se			DKX
Madsen; Kjeld	V.ae butted.rl.o slashed.se			DKX

US-CL-CURRENT: 514/12; 530/324

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KMNC	Drawn Desc	Image
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 25. Document ID: US 6074875 A

L2: Entry 25 of 42

File: USPT

Jun 13, 2000

US-PAT-NO: 6074875

DOCUMENT-IDENTIFIER: US 6074875 A

TITLE: Materials and methods relating to the regulation of polypeptide production in cells

DATE-ISSUED: June 13, 2000

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Thorens; Bernard	Epalinge			CHX

US-CL-CURRENT: 435/455; 435/325, 435/354, 435/358, 435/366

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KMNC	Drawn Desc	Image
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 26. Document ID: US 6051557 A

L2: Entry 26 of 42

File: USPT

Apr 18, 2000

US-PAT-NO: 6051557

DOCUMENT-IDENTIFIER: US 6051557 A

TITLE: Methods of enhancing functioning of the upper gastrointestinal tract

DATE-ISSUED: April 18, 2000

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Drucker; Daniel J.	Ontario			CAX

US-CL-CURRENT: 514/12; 435/366, 530/308, 530/324

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KMNC	Drawn Desc	Image
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 27. Document ID: US 5846937 A

L2: Entry 27 of 42

File: USPT

Dec 8, 1998

US-PAT-NO: 5846937

DOCUMENT-IDENTIFIER: US 5846937 A

TITLE: Method of using exendin and GLP-1 to affect the central nervous system

DATE-ISSUED: December 8, 1998

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Drucker; Daniel J.	Toronto			CAX

US-CL-CURRENT: 514/12; 514/2, 530/350, 530/399

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">KINIC</a>	<a href="#">Draw Desc</a>	<a href="#">Image</a>
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 28. Document ID: US 5782798 A

L2: Entry 28 of 42

File: USPT

Jul 21, 1998

US-PAT-NO: 5782798

DOCUMENT-IDENTIFIER: US 5782798 A

TITLE: Techniques for treating eating disorders by brain stimulation and drug infusion

DATE-ISSUED: July 21, 1998

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Rise; Mark T.	Monticello	MN		

US-CL-CURRENT: 604/500; 604/890.1, 607/45, 607/72

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">KINIC</a>	<a href="#">Draw Desc</a>	<a href="#">Image</a>
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 29. Document ID: US 5424286 A

L2: Entry 29 of 42

File: USPT

Jun 13, 1995

US-PAT-NO: 5424286

DOCUMENT-IDENTIFIER: US 5424286 A

TITLE: Exendin-3 and exendin-4 polypeptides, and pharmaceutical compositions comprising same

DATE-ISSUED: June 13, 1995

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Eng; John	Bronx	NY	10471	

US-CL-CURRENT: 514/2; 435/69.1, 514/866, 530/324[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#)[KMC](#) | [Drawn Desc](#) | [Image](#) 30. Document ID: AU 200164789 A, WO 200193837 A2

L2: Entry 30 of 42

File: DWPI

Dec 17, 2001

DERWENT-ACC-NO: 2002-130564

DERWENT-WEEK: 200225

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TITLE: Particles, useful for pulmonary delivery of therapeutic protein to deep lung of patient suffering from e.g. diabetes, comprise therapeutic protein core and surfactant coating

INVENTOR: BHAT, M G; CUFF, G W ; WOLFF, R K

PRIORITY-DATA: 2000US-210423P (June 8, 2000)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
AU 200164789 A	December 17, 2001		000	A61K009/16
WO 200193837 A2	December 13, 2001	E	045	A61K009/16

INT-CL (IPC): A61 K 9/16; A61 K 9/50; A61 K 38/28[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#)[KMC](#) | [Drawn Desc](#) | [Image](#) 31. Document ID: WO 200151078 A1, AU 200126380 A

L2: Entry 31 of 42

File: DWPI

Jul 19, 2001

DERWENT-ACC-NO: 2001-514422

DERWENT-WEEK: 200156

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TITLE: Use of exendin and exendin agonist compounds for modulating triglyceride levels, and treating heart disease and dyslipidemia

INVENTOR: KOLTERMAN, O G; YOUNG, A A

PRIORITY-DATA: 2000US-175365P (January 10, 2000)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 200151078 A1	July 19, 2001	E	161	A61K038/22
AU 200126380 A	July 24, 2001		000	A61K038/22

INT-CL (IPC): A61 K 31/20; A61 K 31/22; A61 K 31/365; A61 K 31/40; A61 K 38/22; A61 P 3/06; A61 K 38/22; A61 K 38/22; A61 K 38/22; A61 K 38/22; A61 K 31:40; A61 K 31:365; A61 K 31:22; A61 K 31:20[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#)[KMC](#) | [Drawn Desc](#) | [Image](#)

32. Document ID: US 2001046489 A1, WO 200139784 A1, AU 200118173 A, US 2001024824 A1

L2: Entry 32 of 42

File: DWPI

Nov 29, 2001

DERWENT-ACC-NO: 2001-408256

DERWENT-WEEK: 200202

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TITLE: Treating diabetes mellitus or liver disease, comprises isolating a nestin-positive pancreatic stem cell from a pancreatic islet of a donor, and transferring the stem cell into the patient

INVENTOR: MOSS, P I; POINTER, G ; WALTERS, D M ; ABRAHAM, E J ; HABENER, J E ; THOMAS, M K ; VALLEJO, M ; ZULEWSKI, H ; FAUSTMAN, D ; HABENER, J L

PRIORITY-DATA: 2000US-238880P (October 6, 2000), 1999US-169082P (December 6, 1999), 2000US-215109P (June 28, 2000), 2000US-0731255 (December 6, 2000), 2000US-0731261 (December 6, 2000)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 2001046489 A1	November 29, 2001		000	A61K048/00
WO 200139784 A1	June 7, 2001	E	102	A61K035/00
AU 200118173 A	June 12, 2001		000	A61K035/00
US 2001024824 A1	September 27, 2001		000	C12N005/08

INT-CL (IPC): A61 K 35/00; A61 K 39/395; A61 K 45/00; A61 K 48/00; C12 N 5/08; C12 N 15/85

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#)

[KMC](#) | [Drawn Desc](#) | [Image](#)

33. Document ID: EP 1196444 A1, WO 200104156 A1, EP 1076066 A1, AU 200059660 A

L2: Entry 33 of 42

File: DWPI

Apr 17, 2002

DERWENT-ACC-NO: 2001-159381

DERWENT-WEEK: 200233

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TITLE: Novel peptide agonist of Glucagon-like peptide, useful for decreasing the level of blood glucose and for treating diseases like diabetes, obesity and eating disorders

INVENTOR: LARSEN, B D; MIKKELSEN, J D ; NEVE, S

PRIORITY-DATA: 1999EP-0610043 (August 9, 1999), 1999US-143591P (July 12, 1999)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 1196444 A1	April 17, 2002	E	000	C07K014/575
WO 200104156 A1	January 18, 2001	E	083	C07K014/575
EP 1076066 A1	February 14, 2001	E	000	C07K014/575
AU 200059660 A	January 30, 2001		000	C07K014/575

INT-CL (IPC): A61 K 38/22; A61 K 47/48; A61 P 3/10; C07 K 14/575

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#)

[KMC](#) | [Drawn Desc](#) | [Image](#)

34. Document ID: DE 19921537 A1

L2: Entry 34 of 42

File: DWPI

Nov 23, 2000

DERWENT-ACC-NO: 2001-050874

DERWENT-WEEK: 200107

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TITLE: Treating carbohydrate metabolism disorders, especially diabetes, comprises activating insulin-secreting b-cells using glucagon-related peptide, glucose-dependent insulinotropic polypeptide, exendin-4 or related drugs

INVENTOR: HOERSCH, D

PRIORITY-DATA: 1999DE-1021537 (May 11, 1999)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DE 19921537 A1	November 23, 2000		010	A61K038/22

INT-CL (IPC): A61 K 38/22; A61 K 38/26

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KOMC	Draw Desc	Image
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 35. Document ID: US 20020049153 A1, WO 200069911 A1, AU 200048555 A, US 6329336 B1, EP 1180121 A1, NO 200105584 A, BR 200010750 A

L2: Entry 35 of 42

File: DWPI

Apr 25, 2002

DERWENT-ACC-NO: 2001-025008

DERWENT-WEEK: 200233

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TITLE: Novel modified insulinotropic peptides for treating diabetes, nervous system disorders and for post surgery treatment, has reactive groups which react with amino, hydroxy or thiol groups on blood components

INVENTOR: BRIDON, D P; EZRIN, A M ; HOLMES, D L ; LARCHEVEQUE, B ; LEBLANC, A ; ST PIERRE, S ; L'ARCHEVEQUE, B ; BRIDON, D

PRIORITY-DATA: 1999US-159783P (October 15, 1999), 1999US-134406P (May 17, 1999), 2000US-0623618 (September 5, 2000), 2001US-0876388 (June 6, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 20020049153 A1	April 25, 2002		000	A61K038/28
WO 200069911 A1	November 23, 2000	E	096	C07K014/605
AU 200048555 A	December 5, 2000		000	C07K014/605
US 6329336 B1	December 11, 2001		000	A01N037/18
EP 1180121 A1	February 20, 2002	E	000	C07K014/605
NO 200105584 A	January 3, 2002		000	C07K000/00
BR 200010750 A	February 26, 2002		000	C07K014/605

INT-CL (IPC): A01 K 38/00; A01 N 37/18; A61 K 38/00; A61 K 38/26; A61 K 38/28; A61 P 3/08; C07 K 0/00; C07 K 14/575; C07 K 14/605; C07 K 14/62

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KOMC	Draw Desc	Image
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36. Document ID: EP 1175443 A1, WO 200066629 A1, AU 200046883 A, BR 200010705 A

L2: Entry 36 of 42

File: DWPI

Jan 30, 2002

DERWENT-ACC-NO: 2000-672834

DERWENT-WEEK: 200216

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TITLE: Modified exendin or an exendin agonist linked to one or more polyethylene glycol (PEG) polymers, modulate plasma glucose levels, useful for treating disorders such as diabetes and obesity

INVENTOR: PRICKETT, K; YOUNG, A

PRIORITY-DATA: 1999US-132018P (April 30, 1999)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 1175443 A1	January 30, 2002	E	000	C07K014/575
WO 200066629 A1	November 9, 2000	E	113	C07K014/575
AU 200046883 A	November 17, 2000		000	C07K014/575
BR 200010705 A	February 5, 2002		000	C07K014/575

INT-CL (IPC): A61 K 47/48; C07 K 14/575

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KIMC	Draw. Desc	Image
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37. Document ID: KR 2001086165 A, WO 200041548 A2, AU 200024136 A, NO 200103469 A, EP 1143989 A2, BR 200007823 A

L2: Entry 37 of 42

File: DWPI

Sep 8, 2001

DERWENT-ACC-NO: 2000-490999

DERWENT-WEEK: 200219

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TITLE: Lowering plasma glucagon using exendin, an exendin agonist, a modified exendin or a modified exendin agonist, useful for treating hyperglucagonemia and diabetes

INVENTOR: GEDULIN, B; YOUNG, A

PRIORITY-DATA: 2000US-175365P (January 10, 2000), 1999US-116380P (January 14, 1999), 1999US-132017P (April 30, 1999)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
KR 2001086165 A	September 8, 2001		000	A61K038/17
WO 200041548 A2	July 20, 2000	E	096	A61K038/28
AU 200024136 A	August 1, 2000		000	A61K038/00
NO 200103469 A	September 14, 2001		000	A61K000/00
EP 1143989 A2	October 17, 2001	E	000	A61K038/00
BR 200007823 A	November 20, 2001		000	A61K038/00

INT-CL (IPC): A61 K 0/00; A61 K 38/00; A61 K 38/17; A61 K 38/28

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">KMC</a>	<a href="#">Draw Desc</a>	<a href="#">Image</a>
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38. Document ID: WO 9943708 A1, ZA 9901571 A, AU 9932477 A, EP 1056775 A1, US 6268343 B1, US 20010047084 A1

L2: Entry 38 of 42

File: DWPI

Sep 2, 1999

DERWENT-ACC-NO: 1999-540562

DERWENT-WEEK: 200235

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TITLE: New derivatives of glucagon-like peptide-1 and exendin containing lipophilic substituent, for treating diabetes and obesity

INVENTOR: HUUSFELDT, P O; KNUDSEN, L B ; MADSEN, K ; NIELSEN, P F ; BJORN, S E ; KAARSHOLM, N C ; OLSEN, H B ; PEDERSEN, F Z

PRIORITY-DATA: 1998US-084357P (May 5, 1998), 1998DK-0000274 (February 27, 1998), 1996DK-0000931 (August 30, 1996), 1996DK-0001259 (November 8, 1996), 1996DK-0001470 (December 20, 1996), 1998DK-0000263 (February 27, 1998), 1998DK-0000264 (February 27, 1998), 1998DK-0000268 (February 27, 1998), 1998DK-0000272 (February 27, 1998), 1998DK-0000508 (April 8, 1998), 1998DK-0000509 (April 8, 1998)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 9943708 A1	September 2, 1999	E	069	C07K014/605
ZA 9901571 A	November 24, 1999		064	A61K000/00
AU 9932477 A	September 15, 1999		000	
EP 1056775 A1	December 6, 2000	E	000	C07K014/605
US 6268343 B1	July 31, 2001		000	A61K039/16
US 20010047084 A1	November 29, 2001		000	A61K038/18

INT-CL (IPC): A61 K 0/00; A61 K 38/18; A61 K 38/26; A61 K 39/16; C07 K 14/00; C07 K 14/575; C07 K 14/605

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">KMC</a>	<a href="#">Draw Desc</a>	<a href="#">Image</a>
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39. Document ID: JP 2002509078 W, WO 9940788 A1, AU 9926596 A, EP 1054594 A1

L2: Entry 39 of 42

File: DWPI

Mar 26, 2002

DERWENT-ACC-NO: 1999-527332

DERWENT-WEEK: 200236

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TITLE: Increasing urine flow by administering peptides or peptide agonists

INVENTOR: BEELEY, N R A; PRICKETT, K ; VINE, W ; YOUNG, A A

PRIORITY-DATA: 1998US-075122P (February 13, 1998)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 2002509078 W	March 26, 2002		097	A61K038/00
WO 9940788 A1	August 19, 1999	E	000	A01N037/18
AU 9926596 A	August 30, 1999		000	A01N037/18
EP 1054594 A1	November 29, 2000	E	000	A01N037/18

INT-CL (IPC) : A01 N 37/18; A61 K 38/00; A61 K 45/00; A61 P 3/12; A61 P 9/12; A61 P 13/02; A61 P 15/00

[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequences](#) [Attachments](#) [KWD](#) [Draw Desc](#) [Image](#)

40. Document ID: AU 200191368 A, WO 9805351 A1, AU 9740636 A, EP 966297 A1, JP 2001501593 W

L2: Entry 40 of 42

File: DWPI

Jan 3, 2002

DERWENT-ACC-NO: 1998-145351

DERWENT-WEEK: 200209

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TITLE: Regulating gastrointestinal motility using exendins or their agonists - for treating spasm, diabetic postprandial hyperglycaemia, impaired glucose tolerance etc., also in diagnostic investigations

INVENTOR: BEELEY, N R A; GEDULIN, B ; PRICKETT, K S ; YOUNG, A A

PRIORITY-DATA: 1996US-0694954 (August 8, 1996), 2001AU-0091368 (November 15, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
AU 200191368 A	January 3, 2002		000	A61K038/00
WO 9805351 A1	February 12, 1998	E	070	A61K038/00
AU 9740636 A	February 25, 1998		000	A61K038/00
EP 966297 A1	December 29, 1999	E	000	A61K038/00
JP 2001501593 W	February 6, 2001		058	A61K038/00

INT-CL (IPC) : A61 K 38/00; A61 K 38/26; A61 K 45/00; A61 P 1/00; A61 P 1/06; C07 K 2/00; C07 K 5/00; C07 K 7/02; G03 F 5/00

[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequences](#) [Attachments](#) [KWD](#) [Draw Desc](#) [Clip Img](#) [Image](#)

41. Document ID: KR 2000016389 A, WO 9746584 A1, DE 19622502 A1, DE 19637230 A1, AU 9731732 A, EP 915910 A1, CN 1227567 A, BR 9710452 A, AU 723694 B, MX 9810361 A1, JP 2000516912 W

L2: Entry 41 of 42

File: DWPI

Mar 25, 2000

DERWENT-ACC-NO: 1998-042119

DERWENT-WEEK: 200104

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TITLE: Truncated versions of exendin peptide(s) for treating diabetes - increase secretion and biosynthesis of insulin, but reduce those of glucagon, and do not induce hypoglycaemia

INVENTOR: GOKE, B; GOKE, R ; HOFFMANN, E ; GOEKE, B ; GOEKE, R

PRIORITY-DATA: 1996DE-1037230 (September 13, 1996), 1996DE-1022502 (June 5, 1996)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
KR 2000016389 A	March 25, 2000		000	C07K014/575
WO 9746584 A1	December 11, 1997	G	150	C07K014/575
DE 19622502 A1	January 2, 1998		040	C07K014/46
DE 19637230 A1	March 19, 1998		022	C07K014/195
AU 9731732 A	January 5, 1998		000	C07K014/575
EP 915910 A1	May 19, 1999	G	000	C07K014/575
CN 1227567 A	September 1, 1999		000	C07K014/575
BR 9710452 A	August 17, 1999		000	C07K014/575
AU 723694 B	August 31, 2000		000	C07K014/575
MX 9810361 A1	July 1, 1999		000	C07K014/575
JP 2000516912 W	December 19, 2000		121	C07K014/575

INT-CL (IPC) : A61 K 38/00; A61 K 38/16; A61 K 38/17; A61 K 38/22; A61 P 3/10; C07 K 14/195; C07 K 14/46; C07 K 14/575; C12 N 15/09

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#)

[KMC](#) | [Draw Desc](#) | [Image](#)

42. Document ID: US 5424286 A

L2: Entry 42 of 42

File: DWPI

Jun 13, 1995

DERWENT-ACC-NO: 1995-262627

DERWENT-WEEK: 199534

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TITLE: Stimulating/inhibiting insulin release with exendin polypeptide(s) - for treating diabetes mellitus and preventing hyperglycaemia..

INVENTOR: ENG, J

PRIORITY-DATA: 1993US-0066480 (May 24, 1993)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 5424286 A	June 13, 1995		017	A61K038/16

INT-CL (IPC) : A61 K 38/16; C07 K 14/46; C12 N 15/63

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#)

[KMC](#) | [Draw Desc](#) | [Image](#)

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[Print](#)

Term	Documents
EXENDIN.DWPI,TDBD,EPAB,USPT,PGPB.	61
EXENDINS.DWPI,TDBD,EPAB,USPT,PGPB.	14
GLUCAGON.DWPI,TDBD,EPAB,USPT,PGPB.	3895
GLUCAGONS.DWPI,TDBD,EPAB,USPT,PGPB.	30
(EXENDIN AND GLUCAGON).USPT,PGPB,EPAB,DWPI,TDBD.	42
(EXENDIN AND GLUCAGON).USPT,PGPB,EPAB,DWPI,TDBD.	42

**Display Format:**

[Previous Page](#)      [Next Page](#)

## WEST

## Search Results - Record(s) 1 through 14 of 14 returned.

 1. Document ID: US 5814600 A

L4: Entry 1 of 14

File: USPT

Sep 29, 1998

US-PAT-NO: 5814600

DOCUMENT-IDENTIFIER: US 5814600 A

TITLE: Method and composition for treatment of insulin requiring mammals

DATE-ISSUED: September 29, 1998

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Rink; Timothy J.	La Jolla	CA		
Young; Andrew A.	Alpine	CA		

US-CL-CURRENT: 514/4; 514/12, 514/21, 514/3              2. Document ID: US 5677279 A

L4: Entry 2 of 14

File: USPT

Oct 14, 1997

US-PAT-NO: 5677279

DOCUMENT-IDENTIFIER: US 5677279 A

TITLE: Methods and compositions for treating pain with amylin or agonists thereof

DATE-ISSUED: October 14, 1997

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Young; Andrew A.	San Diego	CA		

US-CL-CURRENT: 514/12              3. Document ID: US 5508260 A

L4: Entry 3 of 14

File: USPT

Apr 16, 1996

US-PAT-NO: 5508260

DOCUMENT-IDENTIFIER: US 5508260 A

TITLE: Methods and compositions for treatment of diabetes mellitus, hypoglycemia,

and other conditions

DATE-ISSUED: April 16, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Beaumont; Kevin	San Diego	CA		
Young; Andrew A.	San Diego	CA		

US-CL-CURRENT: 514/4; 530/303, 530/307

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [Claims](#) | [KINIC](#) | [Drawn Desc](#) | [Image](#)

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4. Document ID: US 5321008 A

L4: Entry 4 of 14

File: USPT

Jun 14, 1994

US-PAT-NO: 5321008

DOCUMENT-IDENTIFIER: US 5321008 A

TITLE: Methods and compositions for treatment of diabetes mellitus, hypoglycemia, and other conditions

DATE-ISSUED: June 14, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Beaumont; Kevin	San Diego	CA		
Young; Andrew A.	San Diego	CA		

US-CL-CURRENT: 514/4; 514/12, 514/21

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [Claims](#) | [KINIC](#) | [Drawn Desc](#) | [Image](#)

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5. Document ID: US 5814600 A

L4: Entry 5 of 14

File: EPAB

Sep 29, 1998

PUB-NO: US005814600A

DOCUMENT-IDENTIFIER: US 5814600 A

TITLE: Method and composition for treatment of insulin requiring mammals

PUBN-DATE: September 29, 1998

INVENTOR-INFORMATION:

NAME	COUNTRY
RINK, TIMOTHY J	US
YOUNG, ANDREW A	US

INT-CL (IPC): A61 K 38/28

EUR-CL (EPC): A61K038/28

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#)

[KINIC](#) | [Drawn Desc](#) | [Image](#)

6. Document ID: US 5677279 A

L4: Entry 6 of 14

File: EPAB

Oct 14, 1997

PUB-NO: US005677279A

DOCUMENT-IDENTIFIER: US 5677279 A

TITLE: Methods and compositions for treating pain with amylin or agonists thereof

PUBN-DATE: October 14, 1997

## INVENTOR-INFORMATION:

NAME

COUNTRY

YOUNG, ANDREW A

US

INT-CL (IPC): A61 K 38/22EUR-CL (EPC): A61K038/22; A61K038/22[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequences](#) [Attachments](#)[KIMC](#) [Drawn Desc](#) [Image](#) 7. Document ID: US 5508260 A

L4: Entry 7 of 14

File: EPAB

Apr 16, 1996

PUB-NO: US005508260A

DOCUMENT-IDENTIFIER: US 5508260 A

TITLE: Methods and compositions for treatment of diabetes mellitus, hypoglycemia, and other conditions

PUBN-DATE: April 16, 1996

## INVENTOR-INFORMATION:

NAME

COUNTRY

BEAUMONT, KEVIN

US

YOUNG, ANDREW A

US

INT-CL (IPC): A61 K 38/28; A61 K 38/23; C07 K 14/585; C07 K 14/62EUR-CL (EPC): A61K038/22; A61K038/26, A61K038/28[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequences](#) [Attachments](#)[KIMC](#) [Drawn Desc](#) [Image](#) 8. Document ID: US 5321008 A

L4: Entry 8 of 14

File: EPAB

Jun 14, 1994

PUB-NO: US005321008A

DOCUMENT-IDENTIFIER: US 5321008 A

TITLE: Methods and compositions for treatment of diabetes mellitus, hypoglycemia, and other conditions

PUBN-DATE: June 14, 1994

## INVENTOR-INFORMATION:

NAME

COUNTRY

BEAUMONT, KEVIN

US

YOUNG, ANDREW A

US

INT-CL (IPC): A61K 37/26; A61K 37/02

EUR-CL (EPC): A61K038/26; A61K038/28, A61K038/22

[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequences](#) [Attachments](#)
[KMC](#) [Drawn Desc](#) [Image](#)

9. Document ID: EP 552771 A1

L4: Entry 9 of 14

File: EPAB

Jul 28, 1993

PUB-NO: EP000552771A1

DOCUMENT-IDENTIFIER: EP 552771 A1

TITLE: Method and apparatus for embossing and printing textile materials.

PUBN-DATE: July 28, 1993

## INVENTOR-INFORMATION:

NAME	COUNTRY
WEISS, GISBERT	DE
SCHAAL, THOMAS	DE

US-CL-CURRENT: 8/149INT-CL (IPC): D06B 11/00; D06C 23/04

EUR-CL (EPC): D06B011/00; D06C023/04

[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequences](#) [Attachments](#)
[KMC](#) [Drawn Desc](#) [Image](#)

10. Document ID: US 5814600 A

L4: Entry 10 of 14

File: DWPI

Sep 29, 1998

DERWENT-ACC-NO: 1998-541789

DERWENT-WEEK: 199846

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TITLE: Composition for treating diabetes - comprising insulin and amylin

INVENTOR: RINK, T J; YOUNG, A A

PRIORITY-DATA: 1994US-0259762 (June 13, 1994), 1991US-0704995 (May 24, 1991),  
1993US-0127705 (September 27, 1993)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 5814600 A	September 29, 1998		026	A61K038/28

INT-CL (IPC): A61 K 38/28
[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequences](#) [Attachments](#)
[KMC](#) [Drawn Desc](#) [Image](#)

11. Document ID: AU 727688 B, US 5677279 A, WO 9826796 A1, AU 9877356 A, ZA 9711255 A, EP 964695 A1

L4: Entry 11 of 14

File: DWPI

Dec 21, 2000

DERWENT-ACC-NO: 1997-511907

DERWENT-WEEK: 200106

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**TITLE:** Treatment or prevention of pain, e.g. migraine - by administration of amylin or an amylin agonist, optionally with a narcotic analgesic or other pain relief agent

**INVENTOR:** YOUNG, A A

**PRIORITY-DATA:** 1996US-0767169 (December 16, 1996)

**PATENT-FAMILY:**

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
AU 727688 B	December 21, 2000		000	A61K038/22
US 5677279 A	October 14, 1997		021	A61K038/22
WO 9826796 A1	June 25, 1998	E	000	A61K038/22
AU 9877356 A	July 15, 1998		000	A61K038/22
ZA 9711255 A	November 25, 1998		061	A61K000/00
EP 964695 A1	December 22, 1999	E	000	A61K038/22

**INT-CL (IPC):** A61 K 0/00; A61 K 38/22

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[KIMC](#) [Draw Desc](#) [Image](#)

12. Document ID: EP 552771 A1, DE 4201766 A1, DE 59300210 G, EP 552771 B1

L4: Entry 12 of 14

File: DWPI

Jul 28, 1993

DERWENT-ACC-NO: 1993-236468

DERWENT-WEEK: 199330

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**TITLE:** Embossing and printing textile materials in single operation - by applying pattern in printing dye to stretchable carrier film of polyester or polyethylene@

**INVENTOR:** SCHAAL, T; WEISS, G

**PRIORITY-DATA:** 1992DE-4201766 (January 23, 1992)

**PATENT-FAMILY:**

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 552771 A1	July 28, 1993	G	013	D06B011/00
DE 4201766 A1	July 29, 1993		007	B32B031/12
DE 59300210 G	June 29, 1995		000	D06B011/00
EP 552771 B1	May 24, 1995	G	017	D06B011/00

**INT-CL (IPC):** B32B 27/12; B32B 31/12; B32B 31/20; B32B 31/22; D06B 11/00; D06C 23/04; D06P 5/13; D06P 7/00; D06Q 1/08; D06Q 1/12

[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequences](#) [Attachments](#)

[KIMC](#) [Draw Desc](#) [Clip Img](#) [Image](#)

13. Document ID: ES 2153828 T3, WO 9216222 A1, AU 9216630 A, AU 9216873 A, EP 529065 A1, AU 9220115 A, EP 533898 A1, US 5264372 A, ZA 9201884 A, JP 05507943 W, JP 05508226 W, EP 586589 A1, AU 648895 B, US 5321008 A, JP 06510753 W, JP 06510754 W, EP 533898 A4, EP 529065 A4, US 5508260 A, US 5527771 A, TW 282402 A, IL 101233 A, SG 44838 A1, TW 324064 A, SG 49239 A1, EP 533898 B1, DE 69226835 E, EP 529065 B1, ES 2122995 T3, CA 2082928 C, DE 69231583 E

L4: Entry 13 of 14

File: DWPI

Mar 16, 2001

DERWENT-ACC-NO: 1992-348934

DERWENT-WEEK: 200123

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TITLE: Compsns. comprising calcitonin and insulin or glucagon - useful as a hypo- or hyperglycaemic agent for treating types I and II diabetes mellitus and other insulin-requiring conditions

INVENTOR: BEAUMONT, K; RINK, T J ; YOUNG, A A

PRIORITY-DATA: 1991US-0774411 (October 10, 1991), 1991US-0670231 (March 15, 1991), 1991US-0704995 (May 24, 1991), 1992US-0862500 (April 3, 1992), 1991US-0640478 (January 10, 1991), 1994US-0259755 (June 10, 1994), 1993US-0129569 (September 29, 1993), 1994US-0260493 (June 14, 1994)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
ES 2153828 T3	March 16, 2001		000	A61K038/28
WO 9216222 A1	October 1, 1992	E	032	A61K037/00
AU 9216630 A	October 21, 1992		000	G01N033/566
AU 9216873 A	October 21, 1992		000	A61K037/00
EP 529065 A1	March 3, 1993	E	032	G01N033/566
AU 9220115 A	December 30, 1992		000	A61K037/02
EP 533898 A1	March 31, 1993	E	032	A61K037/00
US 5264372 A	November 23, 1993		019	G01N033/566
ZA 9201884 A	October 27, 1993		034	A61K000/00
JP 05507943 W	November 11, 1993		009	A61K037/30
JP 05508226 W	November 18, 1993		014	G01N033/53
EP 586589 A1	March 16, 1994	E	000	A61K037/02
AU 648895 B	May 5, 1994		000	A61K037/30
US 5321008 A	June 14, 1994		011	A61K037/26
JP 06510753 W	December 1, 1994		000	A61K037/26
JP 06510754 W	December 1, 1994		007	A61K037/24
EP 533898 A4	October 13, 1993		000	A61K037/00
EP 529065 A4	October 20, 1993		000	A61K037/00
US 5508260 A	April 16, 1996		011	A61K038/28
US 5527771 A	June 18, 1996		013	A61K038/00
TW 282402 A	August 1, 1996		000	A61K037/30
IL 101233 A	April 15, 1997		000	G01N033/566
SG 44838 A1	December 19, 1997		000	A61K000/00
TW 324064 A	January 1, 1998		000	G01N033/566
SG 49239 A1	May 18, 1998		000	A61K037/02
EP 533898 B1	September 2, 1998	E	000	A61K038/00
DE 69226835 E	October 8, 1998		000	A61K038/00
EP 529065 B1	October 21, 1998	E	000	G01N033/566
ES 2122995 T3	January 1, 1999		000	A61K038/00
CA 2082928 C	September 5, 2000	E	000	A61K038/28
DE 69231583 E	January 4, 2001		000	A61K038/28

EP 533898 A4 INT-CL (IPC) : A61K 0/00; A61K 37/00; A61K 37/02; A61K 37/24; A61K 37/26; A61K 37/28; A61K 37/30; A61K 38/00; A61K 38/23 ; A61K 38/26; A61K 38/28; C07K 5/00; C07K 7/00; C07K 14/00; C07K 14/585; C07K 14/605; C07K 14/62; C07K 15/00; C07K 15/14; C07K 17/00; C12P 21/08; G01N 33/53; G01N 33/566; G01N 33/567; G01N 33/577; G01N 33/74

14. Document ID: CH 552771 A, CA 977637 A, GB 1425058 A, NL 156502 B, US 3850148 A

L4: Entry 14 of 14

File: DWPI

Aug 15, 1974

DERWENT-ACC-NO: 1974-I4935V

DERWENT-WEEK: 197439

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TITLE: Forced flow steam generator - water injector flow output signal is inversely proportional to feed water flow signal

PRIORITY-DATA: 1972CH-0008688 (June 12, 1972)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
CH 552771 A	August 15, 1974		000	
CA 977637 A	November 11, 1975		000	
GB 1425058 A	February 18, 1976		000	
NL 156502 B	April 17, 1978		000	
US 3850148 A	November 26, 1974		000	

INT-CL (IPC): F22B 29/02; F22B 35/10; F22G 5/12

[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequences](#) [Attachments](#)
[RUMC](#) [Draw Desc](#) [Image](#)
[Generate Collection](#)
[Print](#)

Term	Documents
"5321008".DWPI,EPAB,USPT,PGPB.	3
5321008S	0
"5508260".DWPI,EPAB,USPT,PGPB.	4
5508260S	0
"5814600".DWPI,EPAB,USPT,PGPB.	3
5814600S	0
"552771".DWPI,EPAB,USPT,PGPB.	3
552771S	0
"5677279".DWPI,EPAB,USPT,PGPB.	3
5677279S	0
(5321008.PN. OR 5508260.PN. OR 5814600.PN. OR 552771.PN. OR 5677279.PN.).USPT,PGPB,EPAB,DWPI,TDBD.	14

[There are more results than shown above. Click here to view the entire set.](#)

Display Format:

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## WEST Search History

DATE: Wednesday, July 03, 2002

<u>Set Name</u> side by side	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u> result set
<i>DB=USPT,PGPB,EPAB,DWPI,TDBD; PLUR=YES; OP=ADJ</i>			
L3	exendin and glucagonoma	1	L3
L2	exendin and glucoma	0	L2
L1	exendin and erythema	2	L1

END OF SEARCH HISTORY

## WEST Search History

DATE: Wednesday, July 03, 2002

<u>Set Name</u> side by side	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u> result set
DB=USPT,PGPB,EPAB,DWPI,TDBD; PLUR=YES; OP=ADJ L1	exendin and erythema	2	L1

END OF SEARCH HISTORY

## WEST

[Generate Collection](#)[Print](#)

## Search Results - Record(s) 1 through 2 of 2 returned.

1. Document ID: US 20010051166 A1

L1: Entry 1 of 2

File: PGPB

Dec 13, 2001

PGPUB-DOCUMENT-NUMBER: 20010051166  
 PGPUB-FILING-TYPE: new  
 DOCUMENT-IDENTIFIER: US 20010051166 A1

TITLE: Hydroxide-releasing agents as skin permeation enhancers

PUBLICATION-DATE: December 13, 2001

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Luo, Eric C.	Plano	TX	US	
Jacobson, Eric C.	San Diego	CA	US	
Hsu, Tsung-Min	San Diego	CA	US	

US-CL-CURRENT: 424/400

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [Claims](#) | [KWMC](#) | [Draw Desc](#) | [Image](#)

2. Document ID: KR 2001086165 A, WO 200041548 A2, AU 200024136 A, NO 200103469 A, EP 1143989 A2, BR 200007823 A

L1: Entry 2 of 2

File: DWPI

Sep 8, 2001

DERWENT-ACC-NO: 2000-490999

DERWENT-WEEK: 200219

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TITLE: Lowering plasma glucagon using exendin, an exendin agonist, a modified exendin or a modified exendin agonist, useful for treating hyperglucagonemia and diabetes

INVENTOR: GEDULIN, B; YOUNG, A

PRIORITY-DATA: 2000US-175365P (January 10, 2000), 1999US-116380P (January 14, 1999), 1999US-132017P (April 30, 1999)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
KR 2001086165 A	September 8, 2001		000	A61K038/17
WO 200041548 A2	July 20, 2000	E	096	A61K038/28
AU 200024136 A	August 1, 2000		000	A61K038/00
NO 200103469 A	September 14, 2001		000	A61K000/00
EP 1143989 A2	October 17, 2001	E	000	A61K038/00
BR 200007823 A	November 20, 2001		000	A61K038/00

INT-CL (IPC): A61 K 0/00; A61 K 38/00; A61 K 38/17; A61 K 38/28

[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequences](#) [Attachments](#) [Claims](#) [KMIC](#) [Drawn Desc](#) [Image](#)

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Term	Documents
EXENDIN.DWPI,TDBD,EPAB,USPT,PGPB.	61
EXENDINS.DWPI,TDBD,EPAB,USPT,PGPB.	14
ERYTHEMA.DWPI,TDBD,EPAB,USPT,PGPB.	5054
ERYTHEMAS.DWPI,TDBD,EPAB,USPT,PGPB.	402
(EXENDIN AND ERYTHEMA).USPT,PGPB,EPAB,DWPI,TDBD.	2
(EXENDIN AND ERYTHEMA).USPT,PGPB,EPAB,DWPI,TDBD.	2

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SO Marketletter, (24 Aug 1998) pp. N/A.  
ISSN: 0951-3175.

AB Amylin of the USA has started clinical trials of its second drug candidate, **exendin-4**, in patients with type 2 diabetes. The drug is a synthetic version of a compound derived from the saliva of the Gila monster, a lizard native to the deserts of Arizona in the USA. The first Phase I study will be conducted in the UK and will look at escalating single doses of subcutaneous **exendin-4** in healthy volunteers. If the results are positive, proof-of-concept studies in patients with type 2 diabetes could begin in 1999.

**Exendin-4** is similar in structure to **glucagon**-like peptide-1, a hormone thought to be important in human glucose metabolism. Clinical data presented at an Eli Lilly meeting in Hamburg, Germany, last year, showed that GLP-1 produces a glucose-dependent stimulation of insulin secretion, an inhibition of **glucagon secretion**, increased rate of proinsulin synthesis and slowed gastric emptying. In addition, animal data has suggested that GLP-1 has insulin-like properties at target tissues (Marketletter May 5, 1997). Lilly is developing synthetic analogs of GLP-1, as the hormone itself has a plasma half-life which is too short to make a commercially-useful product. Amylin notes that **exendin-4** shares many of the properties of GLP-1 but offers a much longer biological duration of action. In animal tests, **exendin-4** stimulated secretion of insulin in hyperglycemia but not hypoglycemic conditions and also modulated gastric emptying. Most importantly, notes Amylin, **exendin-4** achieved a near-normalization of glucose control in an animal model of type 2 diabetes. Chronic administration to obese animals decreased food intake and led to a reduction in weight, suggesting **exendin-4** may also have a role to play in the management of obesity. Amylin's lead product, pramlintide, is currently in four pivotal trials in patients with both type 1 and type 2 diabetes (Marketletters *passim*).

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TI Amylin Starts Trials Of **Exendin-4** In Diabetes

SO Marketletter, (24 Aug 1998) pp. N/A.  
ISSN: 0951-3175.

AB Amylin of the USA has started clinical trials of its second drug candidate, **exendin-4**, in patients with type 2 diabetes. The drug is a synthetic version of a compound derived from the saliva of the Gila monster, a lizard native to the deserts of Arizona in the USA. The first Phase I study will be conducted in the UK and will look at escalating single doses of subcutaneous **exendin-4** in healthy volunteers. If the results are positive, proof-of-concept studies in patients with type 2 diabetes could begin in 1999. **Exendin-4** is similar in structure to glucagon-like peptide-1, a hormone thought to be important in human glucose metabolism. Clinical data presented at an Eli Lilly meeting in Hamburg, Germany, last year, showed that GLP-1 produces a glucose-dependent stimulation of insulin secretion, an inhibition of glucagon secretion, increased rate of proinsulin synthesis and slowed gastric emptying. In addition, animal data has suggested that GLP-1 has insulin-like properties at target tissues (Marketletter May 5, 1997). Lilly is developing synthetic analogs of GLP-1, as the hormone itself has a plasma half-life which is too short to make a commercially-useful product. Amylin notes that **exendin-4** shares many of the properties of GLP-1 but offers a much longer biological duration of action. In animal tests, **exendin-4** stimulated secretion of insulin in hyperglycemia but not hypoglycemic conditions and also modulated gastric emptying. Most importantly, notes Amylin, **exendin-4** achieved a near-normalization of glucose control in an animal model of type 2 diabetes. Chronic administration to obese animals decreased food intake and led to a reduction in weight, suggesting **exendin-4** may also have a role to play in the management of obesity. Amylin's lead product, pramlintide, is currently in four pivotal trials in patients with both type 1 and type 2 diabetes (Marketletters *passim*).

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TI Amylin Starts Trials Of **Exendin-4** In Diabetes

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## AMYLIN PHARMACEUTICALS BEGINS FIRST HUMAN STUDY OF EXENDIN-4, ITS SECOND DIABETES DRUG CANDIDATE

San Diego, CA — August 18, 1998 — Amylin Pharmaceuticals, Inc. (Nasdaq:AMLN) today announced that it has initiated a Phase 1 clinical study of AC2993 (exendin-4), an investigational drug for type 2 diabetes. Exendin-4 was originally isolated from the salivary secretions of the Gila monster, a lizard that is native to the Arizona deserts. Now, a synthetic version of this peptide is being administered subcutaneously to normal human volunteers. This single-dose-escalation study, which is taking place in the United Kingdom, is designed to test the safety and tolerability of exendin-4. Based on the results of this Phase 1 clinical trial, concept testing studies in patients with type 2 diabetes could begin in 1999.

"In late 1996, we acquired exclusive patent rights to two exendin molecules from their discoverer, John Eng, M.D. of Bronx, New York, and have expeditiously moved exendin-4 through research into early human testing," said Maurizio Denaro, M.D., Amylin Pharmaceuticals' Executive Vice President and Chief Technical Officer. "Over 50% of the structure of exendin-4 is homologous to glucagon-like peptide-1 (GLP-1), a human hormone thought to be important in glucose metabolism. However, exendin-4 is pharmaceutically more attractive than GLP-1, one reason being its longer duration of biological action. Data that we have obtained so far from animal models supports the idea that exendin-4 may be a promising drug candidate for treating type 2 diabetes and related metabolic disorders such as obesity."

Exendin-4 has been shown to exert effects that appear important for metabolic and glucose control. In animal models, exendin-4 stimulated secretion of insulin (a glucose-lowering hormone) in the presence of excess blood-glucose concentrations and not during periods of hypoglycemia — dangerously low blood-glucose concentrations. Exendin-4 also modulated gastric emptying to slow the entry of ingested nutrients into the bloodstream. Chronic subcutaneous administration of exendin-4 lessened food consumption in obese animals, leading to reduced body weight. Most importantly, administration of exendin-4 has resulted in near normalization of glucose control in animal models of type 2 diabetes.

Type 2 diabetes is a complex disease typically characterized by elevated blood-glucose concentrations, insulin resistance and obesity. As the disease progresses, treatment often becomes ineffective and must be supplemented or replaced with insulin. The Company believes that exendin-4 has the potential to be of therapeutic value across a wide scope of this disease. Currently, it is estimated that 15 million people in the United States suffer from type 2 diabetes.

"Initiation of this modest-cost Phase 1 study of exendin-4 is part of the Company's directed strategy to broaden its metabolic drug development activities beyond pramlintide," said Joseph C. Cook, Jr., Amylin's Chairman and Chief

Executive Officer. "Pramlintide, a synthetic analogue of human amylin that was invented and patented by the Company, is the subject of four ongoing Phase 3 clinical trials. We expect to report results from two of these studies in the fourth quarter of this year. We are currently in discussions with potential corporate partners who might aid in the development and commercialization of pramlintide and/or exendin-4."

Amylin Pharmaceuticals, Inc. is focused on developing novel medicines for treating metabolic disorders. The Company has pioneered research of the hormone amylin, which is believed to play an important role in metabolic control and is missing or deficient in millions of people with diabetes. The Company is developing pramlintide, its patented synthetic analog of human amylin, for the treatment of diabetes. Four, ongoing Phase 3 clinical studies of pramlintide are fully enrolled. The studies, two each in type 1 and insulin-using type 2 diabetes, are designed to test pramlintide's safety and efficacy and thereby support regulatory filings in Europe and the United States. AC2993 (exendin-4), an investigational drug for type 2 diabetes and related metabolic disorders, is currently undergoing Phase 1 safety and tolerability testing. The Company has a research and development pipeline within the field of metabolic disorders, including preclinical programs for GLP-1 for type 2 diabetes and obesity, lipid-lowering antioxidants for atherosclerosis and prevention of restenosis, and new drug targets for obesity, including mitochondrial uncoupling proteins. Amylin Pharmaceuticals is headquartered in San Diego, California and has European operations headquartered in Oxford, U.K.

This press release contains forward-looking statements that involve risks and uncertainties. The Company's actual results could differ materially from those discussed herein, due to risks and uncertainties regarding, among other things, the drug discovery and development process, the results of the Company's ongoing and planned clinical studies of pramlintide and AC2993 (exendin-4), the Company's ability to raise additional capital to finance its business operations, the timing of filing for regulatory approval of pramlintide, and if such approval is received, time to market thereafter. Additional risks and uncertainties are described in the Company's most recently filed SEC documents, such as its Form 10-K and 10-Q.

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Related Articles, Links

Glucagon-like peptide-1 (GLP-1): a gut hormone of potential interest in the treatment of diabetes.

Bioessays. 1998 Aug;20(8):642-51. Review.

PMID: 9780839 [PubMed - indexed for MEDLINE]

 2: Faulkner A, Martin PA.

Related Articles, Links

Changes in the concentrations of glucagon-like peptide-1(7-36)amide and gastric inhibitory polypeptide during the lactation cycle in goats.

J Dairy Res. 1998 Aug;65(3):433-41.

PMID: 9718496 [PubMed - indexed for MEDLINE]

 3: Meneilly GS, Ryan AS, Minaker KL, Elahi D.

Related Articles, Links

The effect of age and glycemic level on the response of the beta-cell to glucose-dependent insulinotropic polypeptide and peripheral tissue sensitivity to endogenously released insulin.

J Clin Endocrinol Metab. 1998 Aug;83(8):2925-32.

PMID: 9709971 [PubMed - indexed for MEDLINE]

 4: Pederson RA, White HA, Schlenzig D, Pauly RP, McIntosh CH, Demuth HU. Related Articles, Links

Improved glucose tolerance in Zucker fatty rats by oral administration of the dipeptidyl peptidase IV inhibitor isoleucine thiazolidide.

Diabetes. 1998 Aug;47(8):1253-8.

PMID: 9703325 [PubMed - indexed for MEDLINE]

 5: Simonsson E, Ahren B.

Related Articles, Links

Potentiated beta-cell response to non-glucose stimuli in insulin-resistant C57BL/6J mice.

Eur J Pharmacol. 1998 Jun 5;350(2-3):243-50.

PMID: 9696414 [PubMed - indexed for MEDLINE]

 6: Ryan AS, Egan JM, Habener JF, Elahi D.

Related Articles, Links

Insulinotropic hormone glucagon-like peptide-1-(7-37) appears not to augment insulin-mediated glucose uptake in young men during euglycemia.

J Clin Endocrinol Metab. 1998 Jul;83(7):2399-404.

PMID: 9661618 [PubMed - indexed for MEDLINE]

 7: Leclercq-Meyer V, Ladriere L, Fuhlendorff J, Malaisse WJ.

Related Articles, Links

Stimulation of insulin and somatostatin release by two meglitinide analogs.

Endocrine. 1997 Dec;7(3):311-7.

PMID: 9657067 [PubMed - indexed for MEDLINE]

 8: Pederson RA, Satkunarajah M, McIntosh CH, Scrocchi LA, Flamez D, Schuit F, Drucker DJ, Wheeler MB.

Related Articles, Links

Enhanced glucose-dependent insulinotropic polypeptide secretion and insulinotropic action in glucagon-like peptide 1 receptor -/- mice.

Diabetes. 1998 Jul;47(7):1046-52.

PMID: 9648827 [PubMed - indexed for MEDLINE]

**9:** Seifarth C, Bergmann J, Holst JJ, Ritzel R, Schmiegel W, Nauck MA. Related Articles, Links  
Prolonged and enhanced secretion of glucagon-like peptide 1 (7-36 amide) after oral sucrose due to alpha-glucosidase inhibition (acarbose) in Type 2 diabetic patients.  
Diabet Med. 1998 Jun;15(6):485-91.  
PMID: 9632123 [PubMed - indexed for MEDLINE]

**10:** Saifia S, Chevrier AM, Bosshard A, Cuber JC, Chayvialle JA, Abello J. Related Articles, Links  
Galanin inhibits glucagon-like peptide-1 secretion through pertussis toxin-sensitive G protein and ATP-dependent potassium channels in rat ileal L-cells.  
J Endocrinol. 1998 Apr;157(1):33-41.  
PMID: 9614355 [PubMed - indexed for MEDLINE]

**11:** Deacon CF, Hughes TE, Holst JJ. Related Articles, Links  
Dipeptidyl peptidase IV inhibition potentiates the insulinotropic effect of glucagon-like peptide 1 in the anesthetized pig.  
Diabetes. 1998 May;47(5):764-9.  
PMID: 9588448 [PubMed - indexed for MEDLINE]

**12:** Holst JJ. Related Articles, Links  
[Glucagon-like peptide-1--a new hormone and a new drug]  
Ugeskr Laeger. 1998 Apr 13;160(16):2371-7. Danish.  
PMID: 9571809 [PubMed - indexed for MEDLINE]

**13:** Schirra J, Sturm K, Leicht P, Arnold R, Goke B, Katschinski M. Related Articles, Links  
Exendin(9-39)amide is an antagonist of glucagon-like peptide-1(7-36)amide in humans.  
J Clin Invest. 1998 Apr 1;101(7):1421-30.  
PMID: 9525985 [PubMed - indexed for MEDLINE]

**14:** Karlsson S, Ahren B. Related Articles, Links  
Insulin and glucagon secretion by ganglionic nicotinic activation in adrenalectomized mice.  
Eur J Pharmacol. 1998 Jan 26;342(2-3):291-5.  
PMID: 9548399 [PubMed - indexed for MEDLINE]

**15:** Damholt AB, Buchan AM, Kofod H. Related Articles, Links  
Glucagon-like-peptide-1 secretion from canine L-cells is increased by glucose-dependent-insulinotropic peptide but unaffected by glucose.  
Endocrinology. 1998 Apr;139(4):2085-91.  
PMID: 9528997 [PubMed - indexed for MEDLINE]

**16:** Ranganath L, Norris F, Morgan L, Wright J, Marks V. Related Articles, Links  
Delayed gastric emptying occurs following acarbose administration and is a further mechanism for its anti-hyperglycaemic effect.  
Diabet Med. 1998 Feb;15(2):120-4.  
PMID: 9507911 [PubMed - indexed for MEDLINE]

**17:** Fehmann HC, Bode HP, Ebert T, Karl A, Goke B. Related Articles, Links  
Interaction of GLP-I and leptin at rat pancreatic B-cells: effects on insulin secretion and signal transduction.  
Horm Metab Res. 1997 Nov;29(11):572-6.  
PMID: 9479558 [PubMed - indexed for MEDLINE]

18: Faulkner A, Martin PA.

Related Articles, Links

The concentrations of some gut polypeptides are elevated during lactation in ruminants.

Comp Biochem Physiol B Biochem Mol Biol. 1997 Nov;118(3):563-8.

PMID: 9467869 [PubMed - indexed for MEDLINE]

19: Karlsson S, Sundler F, Ahren B.

Related Articles, Links

Insulin secretion by gastrin-releasing peptide in mice: ganglionic versus direct islet effect.

Am J Physiol. 1998 Jan;274(1 Pt 1):E124-9.

PMID: 9458757 [PubMed - indexed for MEDLINE]

20: Lester LB, Langeberg LK, Scott JD.

Related Articles, Links

Anchoring of protein kinase A facilitates hormone-mediated insulin secretion.

Proc Natl Acad Sci U S A. 1997 Dec 23;94(26):14942-7.

PMID: 9405718 [PubMed - indexed for MEDLINE]

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21: [Gromada J, Bokvist K, Ding WG, Holst JJ, Nielsen JH, Rorsman P.](#) Related Articles, Links  
Glucagon-like peptide 1 (7-36) amide stimulates exocytosis in human pancreatic beta-cells by both proximal and distal regulatory steps in stimulus-secretion coupling.  
Diabetes. 1998 Jan;47(1):57-65.  
PMID: 9421375 [PubMed - indexed for MEDLINE]

22: [Nauck MA, Niedereichholz U, Ettler R, Holst JJ, Orskov C, Ritzel R, Schmiegel WH.](#) Related Articles, Links  
Glucagon-like peptide 1 inhibition of gastric emptying outweighs its insulinotropic effects in healthy humans.  
Am J Physiol. 1997 Nov;273(5 Pt 1):E981-8.  
PMID: 9374685 [PubMed - indexed for MEDLINE]

23: [Gefel D, Barg Y, Zimlichman R.](#) Related Articles, Links  
Glucagon-like peptide-1 structure, function and potential use for NIDDM.  
Isr J Med Sci. 1997 Oct;33(10):690-5. Review.  
PMID: 9397146 [PubMed - indexed for MEDLINE]

24: [Imeryuz N, Yegen BC, Bozkurt A, Coskun T, Villanueva-Penacarrillo ML, Ulusoy NB.](#) Related Articles, Links  
Glucagon-like peptide-1 inhibits gastric emptying via vagal afferent-mediated central mechanisms.  
Am J Physiol. 1997 Oct;273(4 Pt 1):G920-7.  
PMID: 9357836 [PubMed - indexed for MEDLINE]

25: [van der Burg MP, van Suylichem PT, Guicherit OR, Frolich M, Lemkes HH, Gooszen HG.](#) Related Articles, Links  
Glucoregulation after canine islet transplantation: contribution of insulin secretory capacity, insulin action, and the entero-insular axis.  
Cell Transplant. 1997 Sep-Oct;6(5):497-503.  
PMID: 9331501 [PubMed - indexed for MEDLINE]

26: [Irwin DM, Satkunarajah M, Wen Y, Brubaker PL, Pederson RA, Wheeler MB.](#) Related Articles, Links  
The Xenopus proglucagon gene encodes novel GLP-1-like peptides with insulinotropic properties.  
Proc Natl Acad Sci U S A. 1997 Jul 22;94(15):7915-20.  
PMID: 9223287 [PubMed - indexed for MEDLINE]

27: [Leech CA, Habener JF.](#) Related Articles, Links  
Insulinotropic glucagon-like peptide-1-mediated activation of non-selective cation currents in insulinoma cells is mimicked by maitotoxin.  
J Biol Chem. 1997 Jul 18;272(29):17987-93.  
PMID: 9218425 [PubMed - indexed for MEDLINE]

28: Edwards CM, Edwards AV, Bloom SR.

Related Articles, Links

Cardiovascular and pancreatic endocrine responses to glucagon-like peptide-1(7-36) amide in the conscious calf.  
Exp Physiol. 1997 Jul;82(4):709-16.  
PMID: 9257113 [PubMed - indexed for MEDLINE]

29: Leclercq-Meyer V, Malaisse WJ.

Related Articles, Links

Modulation of gliquidone action by forskolin in the pancreas of normal and GK rats.  
Am J Physiol. 1997 Jul;273(1 Pt 1):E52-8.  
PMID: 9252479 [PubMed - indexed for MEDLINE]

30: Todd JF, Wilding JP, Edwards CM, Khan FA, Ghatei MA, Bloom SR.

Related Articles, Links

Glucagon-like peptide-1 (GLP-1): a trial of treatment in non-insulin-dependent diabetes mellitus.  
Eur J Clin Invest. 1997 Jun;27(6):533-6.  
PMID: 9229235 [PubMed - indexed for MEDLINE]

31: Ding WG, Renstrom E, Rorsman P, Buschard K, Gromada J.

Related Articles, Links

Glucagon-like peptide I and glucose-dependent insulinotropic polypeptide stimulate Ca<sup>2+</sup>-induced secretion in rat alpha-cells by a protein kinase A-mediated mechanism.  
Diabetes. 1997 May;46(5):792-800.  
PMID: 9133546 [PubMed - indexed for MEDLINE]

32: Heller RS, Kieffer TJ, Habener JF.

Related Articles, Links

Insulinotropic glucagon-like peptide I receptor expression in glucagon-producing alpha-cells of the rat endocrine pancreas.  
Diabetes. 1997 May;46(5):785-91.  
PMID: 9133545 [PubMed - indexed for MEDLINE]

33: Berdeu D, Puech R, Ribes G, Loubatieres-Mariani MM, Bertrand G.

Related Articles, Links

Antazoline increases insulin secretion and improves glucose tolerance in rats and dogs.  
Eur J Pharmacol. 1997 Apr 18;324(2-3):233-9.  
PMID: 9145778 [PubMed - indexed for MEDLINE]

34: Mathi SK, Chan Y, Li X, Wheeler MB.

Related Articles, Links

Scanning of the glucagon-like peptide-1 receptor localizes G protein-activating determinants primarily to the N terminus of the third intracellular loop.  
Mol Endocrinol. 1997 Apr;11(4):424-32.  
PMID: 9092794 [PubMed - indexed for MEDLINE]

35: Ding WG, Gromada J.

Related Articles, Links

Protein kinase A-dependent stimulation of exocytosis in mouse pancreatic beta-cells by glucose-dependent insulinotropic polypeptide.  
Diabetes. 1997 Apr;46(4):615-21.  
PMID: 9075801 [PubMed - indexed for MEDLINE]

36: Nauck MA, Holst JJ, Willms B, Schmiegel W.

Related Articles, Links

Glucagon-like peptide 1 (GLP-1) as a new therapeutic approach for type 2-diabetes.  
Exp Clin Endocrinol Diabetes. 1997;105(4):187-95. Review.  
PMID: 9285204 [PubMed - indexed for MEDLINE]

37: Printz H, Recke B, Fehmann HC, Goke B.

Related Articles, Links

No apparent benefit of liquid formula diet in NIDDM.  
Exp Clin Endocrinol Diabetes. 1997;105(3):134-9.  
PMID: 9228508 [PubMed - indexed for MEDLINE]

38: [Holst JJ.](#)

[Related Articles](#), [Links](#)

Enteroglucagon.

Annu Rev Physiol. 1997;59:257-71. Review.

PMID: 9074764 [PubMed - indexed for MEDLINE]

39: [Shalev A, Holst JJ, Keller U.](#)

[Related Articles](#), [Links](#)

Effects of glucagon-like peptide 1 (7-36 amide) on whole-body protein metabolism in healthy man.

Eur J Clin Invest. 1997 Jan;27(1):10-6.

PMID: 9041371 [PubMed - indexed for MEDLINE]

40: [Ahren B, Simonsson E, Scheurink AJ, Mulder H, Myrsen U, Sundler F.](#)

[Related Articles](#), [Links](#)

Dissociated insulinotropic sensitivity to glucose and carbachol in high-fat diet-induced insulin resistance in C57BL/6J mice.

Metabolism. 1997 Jan;46(1):97-106.

PMID: 9005977 [PubMed - indexed for MEDLINE]

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41: [Yada T, Sakurada M, Nakata M, Ihida K, Yaekura K, Shioda S, Kikuchi M.](#) Related Articles, Links  
Current status of PACAP as a regulator of insulin secretion in pancreatic islets.  
Ann N Y Acad Sci. 1996 Dec 26;805:329-40; discussion 341-2.  
PMID: 8993414 [PubMed - indexed for MEDLINE]

42: [Pederson RA, Kieffer TJ, Pauly R, Kofod H, Kwong J, McIntosh CH.](#) Related Articles, Links  
The enteroinsular axis in dipeptidyl peptidase IV-negative rats.  
Metabolism. 1996 Nov;45(11):1335-41.  
PMID: 8931636 [PubMed - indexed for MEDLINE]

43: [Kieffer TJ, Heller RS, Unson CG, Weir GC, Habener JF.](#) Related Articles, Links  
Distribution of glucagon receptors on hormone-specific endocrine cells of rat pancreatic islets.  
Endocrinology. 1996 Nov;137(11):5119-25.  
PMID: 8895386 [PubMed - indexed for MEDLINE]

44: [Byrne MM, Goke B.](#) Related Articles, Links  
Human studies with glucagon-like-peptide-1: potential of the gut hormone for clinical use.  
Diabet Med. 1996 Oct;13(10):854-60. Review.  
PMID: 8911778 [PubMed - indexed for MEDLINE]

45: [Pauly RP, Rosche F, Wermann M, McIntosh CH, Pederson RA, Demuth HU.](#) Related Articles, Links  
Investigation of glucose-dependent insulinotropic polypeptide-(1-42) and glucagon-like peptide-1-(7-36) degradation in vitro by dipeptidyl peptidase IV using matrix-assisted laser desorption/ionization-time of flight mass spectrometry. A novel kinetic approach.  
J Biol Chem. 1996 Sep 20;271(38):23222-9.  
PMID: 8798518 [PubMed - indexed for MEDLINE]

46: [Holst JJ.](#) Related Articles, Links  
GLP-1 in NIDDM.  
Diabet Med. 1996 Sep;13(9 Suppl 6):S156-60. Review.  
PMID: 8894501 [PubMed - indexed for MEDLINE]

47: [Gutniak MK, Junntti-Berggren L, Hellstrom PM, Guenifi A, Holst JJ, Efendic S.](#) Related Articles, Links  
Glucagon-like peptide I enhances the insulinotropic effect of glibenclamide in NIDDM patients and in the perfused rat pancreas.  
Diabetes Care. 1996 Aug;19(8):857-63.  
PMID: 8842604 [PubMed - indexed for MEDLINE]

48: [Orskov C, Wettergren A, Holst JJ.](#) Related Articles, Links  
Secretion of the incretin hormones glucagon-like peptide-1 and gastric inhibitory

polypeptide correlates with insulin secretion in normal man throughout the day.

Scand J Gastroenterol. 1996 Jul;31(7):665-70.

PMID: 8819215 [PubMed - indexed for MEDLINE]

49: [Bullock BP, Heller RS, Habener JF.](#)

Related Articles, Links

Tissue distribution of messenger ribonucleic acid encoding the rat glucagon-like peptide-1 receptor.

Endocrinology. 1996 Jul;137(7):2968-78.

PMID: 8770921 [PubMed - indexed for MEDLINE]

50: [Ranganath LR, Beety JM, Morgan LM, Wright JW, Howland R, Marks V.](#)

Related Articles, Links

Attenuated GLP-1 secretion in obesity: cause or consequence?

Gut. 1996 Jun;38(6):916-9.

PMID: 8984033 [PubMed - indexed for MEDLINE]

51: [Adrian TE, Thompson JS, Quigley EM.](#)

Related Articles, Links

Time course of adaptive regulatory peptide changes following massive small bowel resection in the dog.

Dig Dis Sci. 1996 Jun;41(6):1194-203.

PMID: 8654152 [PubMed - indexed for MEDLINE]

52: [Roberge JN, Gronau KA, Brubaker PL.](#)

Related Articles, Links

Gastrin-releasing peptide is a novel mediator of proximal nutrient-induced proglucagon-derived peptide secretion from the distal gut.

Endocrinology. 1996 Jun;137(6):2383-8.

PMID: 8641190 [PubMed - indexed for MEDLINE]

53: [Yasuda K, Seino Y.](#)

Related Articles, Links

[Gastric inhibitory polypeptide (GIP) and GIP receptor (GIPR)]

Nippon Rinsho. 1996 Apr;54(4):1078-82. Review. Japanese.

PMID: 8920677 [PubMed - indexed for MEDLINE]

54: [Knapper JM, Morgan LM, Fletcher JM.](#)

Related Articles, Links

Nutrient-induced secretion and metabolic effects of glucose-dependent insulinotropic polypeptide and glucagon-like peptide-1.

Proc Nutr Soc. 1996 Mar;55(1B):291-305. Review. No abstract available.

PMID: 8832801 [PubMed - indexed for MEDLINE]

55: [Linn T, Schneider K, Goke B, Federlin K.](#)

Related Articles, Links

Glucagon-like-peptide-1 (7-36) amide improves glucose sensitivity in beta-cells of NOD mice.

Acta Diabetol. 1996 Mar;33(1):19-24.

PMID: 8777280 [PubMed - indexed for MEDLINE]

56: [Ohnuma H, Yamatani K, Igarashi M, Sugiyama K, Manaka H, Tominaga M, Sasaki H.](#)

Related Articles, Links

Intracerebroventricular injection of methylatropine suppresses insulin response to oral glucose load in rats.

J Auton Nerv Syst. 1996 Feb 5;57(1-2):43-8.

PMID: 8867084 [PubMed - indexed for MEDLINE]

57: [Schuit FC.](#)

Related Articles, Links

Factors determining the glucose sensitivity and glucose responsiveness of pancreatic beta cells.

Horm Res. 1996;46(3):99-106. Review.

PMID: 8894663 [PubMed - indexed for MEDLINE]

58: [Plisetskaya EM, Mommsen TP.](#)

Related Articles, Links

Glucagon and glucagon-like peptides in fishes.  
Int Rev Cytol. 1996;168:187-257. Review.  
PMID: 8843650 [PubMed - indexed for MEDLINE]

**59:**Lutz TA, Del Prete E, Szabady MM, Scharrer E. Related Articles, Links  
Attenuation of the anorectic effects of glucagon, cholecystokinin, and bombesin by the amylin receptor antagonist CGRP(8-37).  
Peptides. 1996;17(1):119-24.  
PMID: 8822520 [PubMed - indexed for MEDLINE]

**60:**Herrmann-Rinke C, Horsch D, McGregor GP, Goke B. Related Articles, Links  
Galanin is a potent inhibitor of glucagon-like peptide-1 secretion from rat ileum.  
Peptides. 1996;17(4):571-6.  
PMID: 8804063 [PubMed - indexed for MEDLINE]

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**Function and survival of intrasplenic islet autografts in dogs.**  
*Diabetologia*. 1996 Jan;39(1):37-44.  
 PMID: 8720601 [PubMed - indexed for MEDLINE]

62: [Leclercq-Meyer V, Malaisse WJ](#) [Related Articles](#), [Links](#)  
**Potentiation of glucagon-like peptide 1 insulinotropic action by succinic acid dimethyl ester.**  
*Life Sci*. 1996;58(14):1195-9.  
 PMID: 8614271 [PubMed - indexed for MEDLINE]

63: [Schirra J, Katschinski M, Weidmann C, Schafer T, Wank U, Arnold R, Goke B](#) [Related Articles](#), [Links](#)  
**Gastric emptying and release of incretin hormones after glucose ingestion in humans.**  
*J Clin Invest*. 1996 Jan 1;97(1):92-103.  
 PMID: 8550855 [PubMed - indexed for MEDLINE]

64: [D'Alessio DA, Vogel R, Prigeon R, Laschansky E, Koerker D, Eng J, Ensink JW](#) [Related Articles](#), [Links](#)  
**Elimination of the action of glucagon-like peptide 1 causes an impairment of glucose tolerance after nutrient ingestion by healthy baboons.**  
*J Clin Invest*. 1996 Jan 1;97(1):133-8.  
 PMID: 8550824 [PubMed - indexed for MEDLINE]

65: [Thorens B](#) [Related Articles](#), [Links](#)  
**Glucagon-like peptide-1 and control of insulin secretion.**  
*Diabete Metab*. 1995 Dec;21(5):311-8. Review.  
 PMID: 8586147 [PubMed - indexed for MEDLINE]

66: [Rocca AS, Brubaker PL](#) [Related Articles](#), [Links](#)  
**Stereospecific effects of fatty acids on proglucagon-derived peptide secretion in fetal rat intestinal cultures.**  
*Endocrinology*. 1995 Dec;136(12):5593-9.  
 PMID: 7588313 [PubMed - indexed for MEDLINE]

67: [Leclercq-Meyer V, Garcia-Martinez JA, Villanueva-Penacarrillo ML, Valverde I, Malaisse WJ](#) [Related Articles](#), [Links](#)  
**In vitro and in vivo insulinotropic action of methyl pyruvate.**  
*Horm Metab Res*. 1995 Nov;27(11):477-81.  
 PMID: 8770621 [PubMed - indexed for MEDLINE]

68: [Faulkner A, Martin PA](#) [Related Articles](#), [Links](#)  
**Effects of somatostatin-28 on plasma glucose-dependent insulinotropic polypeptide**

and serum insulin concentrations.

Biochem Soc Trans. 1995 Nov;23(4):544S. No abstract available.

PMID: 8654729 [PubMed - indexed for MEDLINE]

**69:** Wang Y, Egan JM, Raygada M, Nadiv O, Roth J, Montrose-Rafizadeh C. Related Articles, Links  
Glucagon-like peptide-1 affects gene transcription and messenger ribonucleic acid stability of components of the insulin secretory system in RIN 1046-38 cells. Endocrinology. 1995 Nov;136(11):4910-7.  
PMID: 7588224 [PubMed - indexed for MEDLINE]

**70:** Volz A, Goke R, Lankat-Buttgereit B, Fehmann HC, Bode HP, Goke B. Related Articles, Links  
Molecular cloning, functional expression, and signal transduction of the GIP-receptor cloned from a human insulinoma. FEBS Lett. 1995 Oct 2;373(1):23-9.  
PMID: 7589426 [PubMed - indexed for MEDLINE]

**71:** Fukase N, Manaka H, Sugiyama K, Takahashi H, Igarashi M, Daimon M, Yamatani K, Tominaga M, Sasaki H. Related Articles, Links  
Response of truncated glucagon-like peptide-1 and gastric inhibitory polypeptide to glucose ingestion in non-insulin dependent diabetes mellitus. Effect of sulfonylurea therapy. Acta Diabetol. 1995 Oct;32(3):165-9.  
PMID: 8590785 [PubMed - indexed for MEDLINE]

**72:** Wheeler MB, Gelling RW, McIntosh CH, Georgiou J, Brown JC, Pederson RA. Related Articles, Links  
Functional expression of the rat pancreatic islet glucose-dependent insulinotropic polypeptide receptor: ligand binding and intracellular signaling properties. Endocrinology. 1995 Oct;136(10):4629-39.  
PMID: 7664683 [PubMed - indexed for MEDLINE]

**73:** Gremlich S, Porret A, Hani EH, Cherif D, Vionnet N, Froguel P, Thorens B. Related Articles, Links  
Cloning, functional expression, and chromosomal localization of the human pancreatic islet glucose-dependent insulinotropic polypeptide receptor. Diabetes. 1995 Oct;44(10):1202-8.  
PMID: 7556958 [PubMed - indexed for MEDLINE]

**74:** Herrmann-Rinke C, Voge A, Hess M, Goke B. Related Articles, Links  
Regulation of glucagon-like peptide-1 secretion from rat ileum by neurotransmitters and peptides. J Endocrinol. 1995 Oct;147(1):25-31.  
PMID: 7490533 [PubMed - indexed for MEDLINE]

**75:** Fehmann HC, Hering BJ, Wolf MJ, Brandhorst H, Brandhorst D, Bretzel RG, Federlin K, Goke B. Related Articles, Links  
The effects of glucagon-like peptide-I (GLP-I) on hormone secretion from isolated human pancreatic islets. Pancreas. 1995 Aug;11(2):196-200.  
PMID: 7479679 [PubMed - indexed for MEDLINE]

**76:** Holz GG 4th, Leech CA, Habener JF. Related Articles, Links  
Activation of a cAMP-regulated Ca(2+)-signaling pathway in pancreatic beta-cells by the insulinotropic hormone glucagon-like peptide-1. J Biol Chem. 1995 Jul 28;270(30):17749-57.  
PMID: 7543091 [PubMed - indexed for MEDLINE]

**77:** Gromada J, Dissing S, Bokvist K, Renstrom E, Frokjaer-Jensen J, Wulff BS, Rorsman P. Related Articles, Links  
Glucagon-like peptide I increases cytoplasmic calcium in insulin-secreting beta TC3-cells by enhancement of intracellular calcium mobilization.

78: [Ritzel R, Orskov C, Holst JJ, Nauck MA.](#)

[Related Articles](#), [Links](#)

Pharmacokinetic, insulinotropic, and glucagonostatic properties of GLP-1 [7-36 amide] after subcutaneous injection in healthy volunteers. Dose-response-relationships.

Diabetologia. 1995 Jun;38(6):720-5.

PMID: 7672496 [PubMed - indexed for MEDLINE]

79: [Fieseler P, Bridenbaugh S, Nustedt R, Martell J, Orskov C, Holst JJ, Nauck MA.](#)

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Physiological augmentation of amino acid-induced insulin secretion by GIP and GLP-I but not by CCK-8.

Am J Physiol. 1995 May;268(5 Pt 1):E949-55.

PMID: 7762650 [PubMed - indexed for MEDLINE]

80: [Jia X, Elliott R, Kwok YN, Pederson RA, McIntosh CH.](#)

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Altered glucose dependence of glucagon-like peptide I(7-36)-induced insulin secretion from the Zucker (fa/fa) rat pancreas.

Diabetes. 1995 May;44(5):495-500.

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1: Endocrinology 1996 Nov;137(11):5119-25

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## Distribution of glucagon receptors on hormone-specific endocrine cells of rat pancreatic islets.

Kieffer TJ, Heller RS, Unson CG, Weir GC, Habener JF.

Laboratory of Molecular Endocrinology, Massachusetts General Hospital, Boston, USA.

Glucagon is insulinotropic, but it remains uncertain whether the insulinotropic action is mediated directly by glucagon receptors expressed on beta-cells or by cross-binding to the insulinotropic glucagon-like peptide-1 (GLP-1) receptor known to be expressed on beta-cells. Binding of [<sup>125</sup>I]glucagon to GLP-1 receptors and not to glucagon receptors has been reported in tumor-derived beta-cells (15). The objectives of the current study were to use receptor-binding techniques and a glucagon receptor-specific antiserum to determine whether glucagon receptors are present on beta-cells. Specific binding (7.2 +/- 0.8%) of [<sup>125</sup>I]GLP-1 to beta TC-3 cells was displaced equivalently with GLP-1 and exendin-(9-39) (K<sub>d</sub> = 0.9 and 0.4 nM, respectively), whereas approximately 700-fold higher concentrations of glucagon were required for equal displacement (K<sub>d</sub> = 400 nM). Binding of [<sup>125</sup>I]glucagon to beta TC-3 cells (approximately 1%) was displaced equivalently with 1 microM glucagon, GLP-1, or exendin-(9-39). These observations support earlier findings that beta TC-3 cells do not express functional glucagon receptors. However, specific binding of [<sup>125</sup>I]glucagon was observed on INS-1 cells (2.3 +/- 0.2%); this was displaced with glucagon (K<sub>d</sub> = 1 nM), but not 1 microM GLP-1 or exendin-(9-39). To examine the distribution of glucagon receptors on native beta-cells, dispersed cultured rat islets were immunostained for glucagon, somatostatin, or insulin in combination with a polyclonal rabbit antiserum raised to an extracellular portion of the glucagon receptor (KD-14). The glucagon receptor antiserum colocalized staining with approximately 97% of immunoreactive insulin cells, 9% of immunoreactive glucagon cells, and 11% of immunoreactive somatostatin cells. Perfusion of the rat pancreas with concentrations of glucagon as low as 10(-12) M resulted in significant insulin release. These results suggest that whereas the tumor-derived beta-cell line beta TC-3 does not express functional glucagon receptors, INS-1 cells and isolated rat pancreatic beta-cells have specific glucagon receptors, as do a subpopulation of alpha- and delta-cells. A model is proposed for the role of glucagon in islet hormone secretion during feeding and fasting.

PMID: 8895386 [PubMed - indexed for MEDLINE]

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Proglucagon glucagon GLP-1 GLP-2  
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4 GLP-2R GIP...  
[http://www.glucagon.com/exendin\\_patents.htm](http://www.glucagon.com/exendin_patents.htm)

**3. Glucagon Home page**

Proglucagon glucagon GLP-1 GLP-2  
oxyntomodulin ... ... Proglucagon glucagon GLP-1 GLP-2 oxyntomodulin glicentin DP IV  
**Exendin-4 GLP-2R GIP...**  
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Proglucagon glucagon GLP-1 GLP-2  
oxyntomodulin ... ... Proglucagon glucagon GLP-1 GLP-2 oxyntomodulin glicentin DP IV  
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oxyntomodulin ... ... Proglucagon glucagon GLP-1 GLP-2 oxyntomodulin glicentin DP IV  
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**7. Patents**

Proglucagon glucagon GLP-1 GLP-2  
oxyntomodulin ... ... Proglucagon glucagon GLP-1 GLP-2 oxyntomodulin glicentin DP IV  
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oxyntomodulin ... ... Proglucagon glucagon GLP-  
1 GLP-2 oxyntomodulin glicentin DP IV  
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**9. New Page 3**

Proglucagon glucagon GLP-1 GLP-2  
oxyntomodulin ... ... Proglucagon glucagon GLP-  
1 GLP-2 oxyntomodulin glicentin DP IV  
**Exendin-4 GLP-2R...**  
<http://www.glucagon.com/Research%20Reagent...>

**10. Islet A cells**

Proglucagon glucagon GLP-1 GLP-2  
oxyntomodulin ... ... Proglucagon glucagon  
GLP-1 GLP-2 oxyntomodulin glicentin DP IV  
**Exendin-4 GLP-2R...**  
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**Exendin-4 GLP-2R...**  
<http://www.glucagon.com/receptors.htm>

**12. Enteroendocrine Cells**

Proglucagon glucagon GLP-1 GLP-2  
 oxyntomodulin ... ... Proglucagon glucagon GLP-1 GLP-2 oxyntomodulin glicentin DP IV  
**Exendin-4 GLP-2R...**  
[http://www.glucagon.com/enteroendocrine\\_ce...](http://www.glucagon.com/enteroendocrine_ce...)

**13. Reviews**

Proglucagon glucagon GLP-1 GLP-2  
 oxyntomodulin ... ... Proglucagon glucagon GLP-1 GLP-2 oxyntomodulin glicentin DP IV  
**Exendin-4 GLP-2R...**  
<http://www.glucagon.com/reviews.htm>

**14. Meetings**

Proglucagon glucagon GLP-1 GLP-2  
 oxyntomodulin ... ... Proglucagon glucagon GLP-1 GLP-2 oxyntomodulin glicentin DP IV  
**Exendin-4 GLP-2R...**  
<http://www.glucagon.com/meetings.htm>

**15. New Page 1**

Proglucagon glucagon GLP-1 GLP-2  
 oxyntomodulin ... ... Proglucagon glucagon GLP-1 GLP-2 oxyntomodulin glicentin DP IV  
**Exendin-4 GLP-2R...**  
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**16. GLP-1**

Proglucagon glucagon GLP-1 GLP-2  
 oxyntomodulin ... ... Proglucagon glucagon GLP-1 GLP-2 oxyntomodulin glicentin DP IV  
**Exendin-4 GLP-2R...**  
<http://www.glucagon.com/GLP-1.htm>

**17. New Page 2**

Proglucagon glucagon GLP-1 GLP-2  
 oxyntomodulin ... ... Proglucagon glucagon GLP-1 GLP-2 oxyntomodulin glicentin DP IV  
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**18. DP IV****Refine**

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**19. Glicentin**

Proglucagon glucagon GLP-1 GLP-2  
oxyntomodulin ... ... Proglucagon glucagon GLP-  
1 GLP-2 oxyntomodulin glicentin DP IV  
**Exendin-4 GLP-2R...**  
<http://www.glucagon.com/glicentin.htm>

**20. GIP**

Proglucagon glucagon GLP-1 GLP-2  
oxyntomodulin ... ... Proglucagon glucagon GLP-  
1 GLP-2 oxyntomodulin glicentin DP IV  
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Proglucagon glucagon GLP-1 GLP-2  
oxyntomodulin ... ... Proglucagon glucagon GLP-  
1 GLP-2 oxyntomodulin glicentin DP IV  
**Exendin-4 GLP-2R...**  
[http://www.glucagon.com/drucker\\_lab\\_resear...](http://www.glucagon.com/drucker_lab_resear...)

**22. Drucker Lab Publications**

Proglucagon glucagon GLP-1 GLP-2  
oxyntomodulin ... ... Proglucagon glucagon GLP-  
1 GLP-2 oxyntomodulin glicentin DP IV  
**Exendin-4 GLP-2R...**  
[http://www.glucagon.com/drucker\\_lab\\_public...](http://www.glucagon.com/drucker_lab_public...)

**23. GLP-2 Receptor**

Proglucagon glucagon GLP-1 GLP-2  
oxyntomodulin ... ... Proglucagon glucagon GLP-  
1 GLP-2 oxyntomodulin glicentin DP IV  
**Exendin-4 GLP-2R...**  
[http://www.glucagon.com/glp-2\\_receptor.htm](http://www.glucagon.com/glp-2_receptor.htm)

**24. GLP-1 receptor**

Proglucagon glucagon GLP-1 GLP-2  
oxyntomodulin ... ... Proglucagon glucagon GLP-  
1 GLP-2 oxyntomodulin glicentin DP IV  
**Exendin-4 GLP-2R...**  
[http://www.glucagon.com/glp-1\\_receptor.htm](http://www.glucagon.com/glp-1_receptor.htm)  
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**25. Glucagon receptor**

Proglucagon glucagon GLP-1 GLP-2  
oxyntomodulin ... ... Proglucagon glucagon GLP-  
1 GLP-2 oxyntomodulin glicentin DP IV  
**Exendin-4 GLP-2R...**  
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**26. GLP-1 Patents**

Proglucagon glucagon GLP-1 GLP-2  
oxyntomodulin ... Proglucagon glucagon GLP-1  
GLP-2 oxyntomodulin glicentin DP IV **Exendin-4**  
GLP-2R GIP...  
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**27. GLP-2 patents**

Proglucagon glucagon GLP-1 GLP-2  
oxyntomodulin ... Proglucagon glucagon GLP-1  
GLP-2 oxyntomodulin glicentin DP IV **Exendin-4**  
GLP-2R GIP...  
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**28. Glucagon Patents**

Proglucagon glucagon GLP-1 GLP-2  
oxyntomodulin ... Proglucagon glucagon GLP-1  
GLP-2 oxyntomodulin glicentin DP IV **Exendin-4**  
GLP-2R GIP...  
[http://www.glucagon.com/glucagon\\_patents.htm](http://www.glucagon.com/glucagon_patents.htm)

**29. Receptor Patents**

Proglucagon glucagon GLP-1 GLP-2  
oxyntomodulin ... Proglucagon glucagon GLP-1  
GLP-2 oxyntomodulin glicentin DP IV **Exendin-4**  
GLP-2R GIP...  
[http://www.glucagon.com/receptor\\_patents.htm](http://www.glucagon.com/receptor_patents.htm)

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**30. GLP-1 secretion**

Proglucagon glucagon GLP-1 GLP-2  
oxyntomodulin ... Proglucagon glucagon GLP-1  
GLP-2 oxyntomodulin glicentin DP IV  
**Exendin-4** GLP-2R...  
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oxyntomodulin ... ... Proglucagon glucagon GLP-1  
GLP-2 oxyntomodulin glicentin DP IV **Exendin-4**  
GLP-2R...

[http://www.glucagon.com/glp-1\\_targets.htm](http://www.glucagon.com/glp-1_targets.htm)

**32. GLUTag cells**

Proglucagon glucagon GLP-1 GLP-2  
oxyntomodulin ... ... Proglucagon glucagon GLP-1  
GLP-2 oxyntomodulin glicentin DP IV **Exendin-4**  
GLP-2R...

[http://www.glucagon.com/glutag\\_cells.htm](http://www.glucagon.com/glutag_cells.htm)

**33. New Page 4**

Proglucagon glucagon GLP-1 GLP-2  
oxyntomodulin ... ... Proglucagon glucagon GLP-1  
GLP-2 oxyntomodulin glicentin DP IV **Exendin-4**  
GLP-2R...

<http://www.glucagon.com/DP%20IV%20and%20GL...>

**34. GLP-2 action**

Proglucagon glucagon GLP-1 GLP-2  
oxyntomodulin ... ... Proglucagon glucagon GLP-1  
GLP-2 oxyntomodulin glicentin DP IV **Exendin-4**  
GLP-2R...

[http://www.glucagon.com/glp-2\\_action.htm](http://www.glucagon.com/glp-2_action.htm)

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**35. Glucagon and Hypoglycemia**

Proglucagon glucagon GLP-1 GLP-2  
oxyntomodulin ... ... Proglucagon glucagon GLP-1  
GLP-2 oxyntomodulin glicentin DP IV **Exendin-4**  
GLP-2R...

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**36. DP IV and diabetes**

DP IV and diabetes Proglucagon glucagon GLP-1  
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Drucker Lab**Count regulatory responses for the defenses of blood glucose**DP IVExendinGIPGlicentinGlucagonGlucagon GeneGLP-1GLP-2Gut endocrine cellsIslet A cellsLinksLiterature HighlightsMeetingsOxyntomodulinPatentsReceptorsResearch ReagentsReviewsHome**GLUCAGON.COM**

**Glucagon** secretion increases rapidly in response to hypoglycemia. Indeed many studies have shown that the **glucagon** response is a primary essential defense mechanism utilized by the body to restore blood glucose to normal. Patients with diabetes frequently develop defective counterregulatory responses to hypoglycemia associated with reduced or absent **glucagon** responses. This is an important clinical problem, as current diabetes management with intensive insulin regimens usually increases the risk and frequency of hypoglycemic events. Although the mechanisms regulating the sensing and response to hypoglycemia remain incompletely understood, glucose sensors in the brain (hypothalamus and brainstem) and portal system play important roles in this counterregulatory system.

What is the molecular identity of these glucose sensors and what goes wrong in the setting of repeated hypoglycemia?

Studies of mice with a genetic mutation in the  $K_{ATP}$  channel have shown that that the Kir6.2 gene is essential for glucose- responsiveness in the ventromedial hypothalamus, as these mice exhibit a severe defect in the **glucagon** response to systemic hypoglycemia. Glucose-responsive neurons utilize several mechanisms to sense blood glucose and neuroglycopenia. Mice with genetic activation of the  $K_{ATP}$  channel exhibit lack glucose-sensitive neurons in the VMH and exhibit a severe defect in **glucagon** secretion in response to either systemic hypoglycemia or neuroglycopenia. See ATP-sensitive  $K^+$  channels in the hypothalamus are essential for the maintenance of glucose homeostasis. Nat Neurosci. 2001 May;4(5):507-512. Hence, the  $K_{ATP}$  channel is clearly an essential component of the CNS glucose sensor in mice.

Similar to observations made in humans, mice exhibit a sexually dimorphic glucagon response to hypoglycemia, with levels of circulating glucagon increasing to a greater extent in female mice after administration of 2-deoxyglucose or following insulin-induced hypoglycemia. Female mice also exhibit a greater glucagon response to carbachol or clonidine. See Gender difference in the glucagon response to glucopenic stress in mice. Am J Physiol Regul Integr Comp Physiol. 2002 282(1):R281-R288

The glucose transporter **GLUT-2** is also an essential component of the peripheral sensors coupling detection of hypoglycemia to appropriate **glucagon** secretion from the islet A cell. **Glucagon** secretion in response to low or high glucose is impaired in GLUT2<sup>-/-</sup> mice, and abnormal autonomic nervous system tone may contribute to this defect. See Evidence that extrapancreatic glut2-dependent glucose sensors control glucagon secretion. Diabetes. 2001 Jun;50(6):1282-9

Given the increasing tendency for tight control in Type 1 and Type 2 diabetes, understanding the pathophysiology of hypoglycemia and defective counterregulation is essential. For the importance of antecedent hypoglycemia in the human counterregulatory response, see Diabetes 2000 Jan;49(1):73-81 Effects of antecedent hypoglycemia on subsequent counterregulatory responses to exercise.

Understanding the defective counterregulatory response requires detailed knowledge of how glucose regulates the A cell. The direct effect of glucose on **glucagon** secretion and gene expression in the A cell is likely modest and indirect, as illustrated in Endocrinology 2000 Jan;141(1):174-80 Glucose regulates

proinsulin and prosomatostatin but not proglucagon messenger ribonucleic acid levels in rat pancreatic islets.

Neural inputs have been recognized as important contributors to normal islet function, and are thought to be involved in the islet A cell response to hypoglycemia. Studies of dogs subjected to pancreatic denervation followed by exposure to mild non-insulin-induced hypoglycemia (5 mM) using a phosphorylase inhibitor demonstrated that **glucagon** responses are normal in this experimental setting. See Pancreatic response to mild non-insulin-induced hypoglycemia does not involve extrinsic neural input. Diabetes. 2001 Nov;50(11):2487-96.

What factors control the counterregulatory response to hypoglycemia in human subjects? Two studies suggest that intraportal glucose and thiazolidinedione treatment modify the magnitude and threshold of the counterregulatory **glucagon** response to hypoglycemia. See Oral Glucose Augments the Counterregulatory Hormone Response during Insulin-Induced Hypoglycemia in Humans. J Clin Endocrinol Metab. 2001 Feb 1;86(2):645-648 and Troglitazone Amplifies Counterregulatory Responses to Hypoglycemia in Nondiabetic Subjects. J Clin Endocrinol Metab. 2001 Feb 1;86(2):521-528

### **Adverse consequences of sulfonylurea therapy for the glucagon response to hypoglycemia**

In a study of patients with type 2 diabetes, oral glibenclamide suppressed the glucagon response to hypoglycemia in patients receiving insulin JCEM 1999 84:3140-3145. The peripheral insulin levels were the same in the glibenclamide plus insulin versus the insulin alone groups. These findings suggest that intraislet insulin, or another action of glibenclamide, suppresses **glucagon** release from the A cell, inappropriately in the presence of hypoglycemia.

Although the major focus on the role of **glucagon** and epinephrine as counterregulatory hormones in the response to insulin-induced hypoglycemia has been primarily in subjects with Type 1 diabetes. The term **Hypoglycemia-Associated Autonomic Failure** (HAAF) is well recognized as an often self-perpetuating problem in patients with Type 1 diabetes that can be reversed by the avoidance of repeated hypoglycemia. As Type 2 diabetes progresses,  $\beta$  cell failure and insulin administration becomes increasingly common. The **glucagon** response to hypoglycemia may also be markedly attenuated or absent in insulin-treated patients with Type 2 diabetes, but not in subjects treated with oral hypoglycemia agents who may retain appropriate sensing of and responsibility to hypoglycemia. Hence, as patients with Type 2 diabetes become insulin-dependent, they may also be at increased risk for hypoglycemia and HAAF. See Hypoglycemia-associated autonomic failure in advanced type 2 diabetes. Diabetes. 2002 Mar;51(3):724-33.

Nevertheless, in the correct experimental setting such as a euglycemic stepped hyperinsulinemic progressively hypoglycemic clamp, generation of additional intraislet hyperinsulinemia with the sulfonylurea tolbutamide results in further attenuation of the glucagon response, but not the catecholamine response to hypoglycemia in healthy young adults. See Intraislet hyperinsulinemia prevents the glucagon response to hypoglycemia despite an intact autonomic response. Diabetes. 2002 Apr;51(4):958-65



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## Glucagonoma

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### Definition:

Glucagonoma is a tumor of the islet cells of the pancreas, which secrete the hormones insulin and glucagon.

### Causes, incidence, and risk factors:

Glucagonoma is usually malignant, which means that it has a tendency to spread and get worse. The islet cells of the pancreas are affected by this cancer, and as a result, they produce too much of a hormone called glucagon.

The excess glucagon causes symptoms such as glucose intolerance and hyperglycemia (elevated blood sugar). Spreading (metastasis) to the liver may occur with this type of cancer. It also causes a distinctive skin lesion called necrolytic migratory erythema.

The cause is unknown, but genetic factors play a role in some cases. Risk factors include a family history of multiple endocrine neoplasia type I (MEN I).



[Endocrine glands](#)

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